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THE TARIFF:
AN INTERPRETATION OF A BEWILDERING PROBLEM

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THE TARIFF

An Interpretation
of
A Bewildering Problem

By
GEORGE CROMPTON

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1927
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Set up and electrotyped.
Published November, 1927.

PRINTED IN THE UNITED STATES OF AMERICA

190839

TO

A. H. C.

PREFACE

This book abounds in quotations—more than is customary in works of this kind—for it has seemed best to quote at length authorities of standing, and to give their arguments in their own words. It is only fair to warn the reader that, like all quotations out of their context, they may possibly fail to give an exact representation of the author's thought. The book is also full of references to the works of economists, from Adam Smith down. Someone has suggested that references are used only to give the appearance of a greater learning than the author possesses. They are used in this work not for that purpose, but to prove that the statements made by the author are supported by the authority of a scholarship to which he makes no pretence.

It may possibly reassure the prospective reader if it is stated that the book contains practically no statistics or difficult mathematical demonstrations.

Had it not been for the kindly encouragement and advice of Professor Arthur H. Cole of Harvard University, this book might never have been published. The author is under obligation to Dr. Edward S. Mason for his general assistance, and particularly for his aid in rearranging the material. The author also wishes to express his appreciation of the kindness of his brother-in-law, Dr. A. E. Benson, in reading over the manuscript and in making many helpful suggestions. To Mrs. R. H. Goddard the writer is indebted for her painstaking assistance in preparing this book for the printer.

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INTRODUCTION

The nineteenth century witnessed many bitter and prolonged controversies. Some of these were already age-worn affairs at its beginning; some, like that concerning evolution, were practically new. Many, both old and new, have been settled seemingly for all time. A war ended the irrepressible sectional conflict over slavery in America; as a result of a greater war there is a restored Poland, and agitation for home rule for Ireland is a thing of the past; and an original and extraordinary campaign won for women in England, the United States, and a number of other countries, the right to vote. Many of the old controversies, however, still rage with undiminished intensity, though more or less changed in aim and emphasis; a number have taken on entirely new aspects; and, substantially unchanged, a few continue.

Among the last is the discussion concerning the relative merits of free trade and protection. Now several hundred years old, this question is still debated very much as it has always been.[1] In several ways it is unique. It was at one time on the point of settlement with a triumph for free trade; but to the surprise of many it reappeared

[1] Of course, as will be shown later, there have been some changes in the forms of the arguments used.

with increased intensity in the latter part of the century, and in recent years has again become a controversial subject in England, long—but perhaps no longer—the only free trade country in the world. But this persistency, this phoenix-like character, though notable and unusual, is not the tariff question's chief claim to interest. The debate concerning the opposing policies of free trade and protection is especially remarkable because of the extraordinary peculiarity of the cleavage between the advocates of these two policies. Nearly all professional economsits, including, outside of Germany at least, the great majority of those who teach political economy in the universities and colleges and most of those who, though not connected with institutions of learning, have written authoritatively on the subject, are or have been free traders; and so also have been many of the most influential and brilliant statesmen and journalists. In short, nearly all those who should be considered as experts on the theory of international trade, or whose opinions should have special weight because of their general knowledge of the principles of economics, have stood and still stand firmly for unrestricted trade between nations; though of course it must be understood that there have generally been, particularly in recent years, noteworthy exceptions. On the other hand, in most countries—until the last few years England was, and perhaps still is, an exception—nearly all practical men of affairs, those whose successful conduct of the large and intricate commercial and industrial units in which the modern world abounds entitles their opinions to respect, have been protectionists.

Perhaps no other controversy exhibits a similar incidence in the severance of opinion. In disputes concerning banking and currency questions both here and abroad,

banker has often opposed banker, and professor of finance professor of finance. There has, to be sure, not always been unanimity of opinion among the theoretical and practical experts; however, not only have they agreed substantially on fundamentals, but what differences of opinion have arisen have generally produced a division which had no relation to the fact that some of the disputants were men of practical affairs and others students of the theory of finance. The marked, pronounced, and persistent disagreement between those whose learning and those whose practical knowledge of trade and manufactures gives and should give them especial influence in directing public opinion in this issue has stamped the tariff question as peculiar, and has undoubtedly led some persons, consciously or unconsciously, to conclude that it is insoluble, and others to assume that "free trade is correct in theory but in practice does not work"—the illogical position to which Sumner objected so justly and emphatically.[1]

The tariff has appeared a number of times in American history as a political issue of importance. In general, most men have followed the position of the party to which they were attached. Among those who felt free to vote on the question there have been many who at one time have voted one way, at another time another, won now by the logic or seeming logic of some free trade arguments, now by the belief that protection produces prosperity. Indeed the average man in this country must experience something like bewilderment as the old controversy reappears every few years; for the debates on the subject in the past, though sometimes clever, have seldom been illuminating, often petty in character, and

[1] W. G. Sumner, "Protectionism," New York, 1885, p. 137.

far from intelligent; both sides, especially the protectionists, using easily refutable arguments. Moreover, the dispute has suffered from the bitterness always engendered by political campaigns. Some measure of this bitterness is now passing: not many now believe, as a great number at one time did believe, that protectionism is advocated only by those who are the beneficiaries of its schedules and their dupes;[1] on the contrary, many must to-day recognize that the historic conflict which has been waged between the forces of protection and of free trade for the last two hundred years and more, continues unabated at the present time, and, so far as one can foresee, may be unsettled many years hence, is more than a vulgar combat among politicians, economists, and those interested in protected industries. It is a *cause célèbre,* whose advocates on one side can count among their numbers some of the ablest minds in the fields of political science and economics, and among whose advocates on the other side may be found many of the keenest intellects in political life and industry. The extraordinary divergence of opinion noted above lends, perhaps, an especial interest to this much-mooted question; but entirely apart from that, the study of the tariff, particularly in some of its phases, is well worth while, for it is an issue intimately connected with the profound economic and political changes of the last two or three centuries. There is no subject more fertile than this in suggestions for a study of the action and reaction of ideas upon historical events and of historical events upon ideas. It is still an unsettled problem; its reappearance in England as a political question of major importance proves that even in the home of classical political economy it is still an unde-

[1] *See* p. 90.

cided issue. In truth, to many it must seem a riddle the solution of which will never be found.

Now that the bitterness formerly associated with this dispute has somewhat abated, now that we have, as the result of years of research, valuable contributions to economic history, and a broader understanding of economic theory, now that we have reached the one hundred and fiftieth anniversary of the publication of the "Wealth of Nations," and may view in retrospect the whole controversy of the past, the workings of free trade in England and the workings of high protection in America and Germany during the last sixty or seventy years, is it not a good time to review without heat or rancor the whole question? Is it not possible to examine critically and fairly the chief arguments on both sides? Can it be that there are possible aspects of the problem, so far little considered, that may in some degree clarify the issue? If honest and intelligent people have differed and still differ decidedly in regard to this question, must not the suspicion arise that there may be some things that have generally escaped their observation?

In the following pages an attempt will be made to examine the pleas put forth by the advocates of both free trade and protection, and to find the proper historical and philosophical setting of the whole problem. Some new views are propounded, which it is hoped may shed additional light on this old controversy.

CHAPTER I

"THE WEALTH OF NATIONS"

In 1776 Adam Smith, a Scotchman, published a book generally known as "The Wealth of Nations." [1] It is a coincidence—perhaps more than a coincidence—that this work first appeared in the same year in which the Declaration of Independence was signed, for it is interesting and significant that they are both parts of the same philosophy of freedom. This philosophy of freedom or natural liberty was then, as a result of the writings of Locke,[2] Hobbes, Rousseau, and others, spreading itself over the civilized world, and was an important cause of both the American and the French Revolutions. One of its first effects in France was seen in the rise of the physiocratic doctrines with which the names of Quesnay, Turgot, and Gournay are connected. Adam Smith in a tour of the Continent as tutor of the young Duke of Buccleuch met Turgot, Quesnay, and others interested in these new ideas, and was undoubtedly influenced by them, for it is evident that he adopted some of their views.[3] Moreover he and

[1] "An Inquiry into the Nature and Causes of the Wealth of Nations" is the full title.

[2] Despite the fact that he was one of those who did most to spread the philosophy of natural liberty, Locke was "a mercantilist to the backbone." *See* William Cunningham, "Growth of English Industry and Commerce," Cambridge, 1892, Vol. II, p. 424.

[3] It is now thought that the physiocratic influence on Adam Smith was rather less than had formerly been supposed. *See* Edwin Cannan, "The Lectures of Adam Smith," Oxford, 1896, introduction, pp. xxii-xxiii. Adam Smith obtained some of his ideas from David Hume, who was the first to demolish the balance of trade fallacy.

they were alike under the sway of the revolt against the restraints of the time on industry and trade. This system of restraint on commerce and industry known as mercantilism was the first organized system of economic beliefs of modern times.[1]

The mercantilists did not believe, as is sometimes carelessly and erroneously stated, that money (or the precious metals) was the only form of wealth, though many of their writings might seem to give ground for such a statement. They, or at least most of them, did believe, however, that it was the most desirable form of wealth, and that where the precious metals were found in abundance there also would be found opulence and prosperity. Therefore as nations that were without mines could not obtain the precious metals except by foreign trade, and even then only when this trade was so conducted as to cause a so-called favorable balance, which it was hoped and believed would be settled by a payment in money or precious metals, imports were to be discouraged and exports encouraged.

As a result of this belief, restraints on trade, always numerous and heavy, were increased in severity, and it was natural that there should be a reaction against this policy. It began in England with Hobbes, North, Petty, and others; but it was in France, where the restraints were of a peculiarly arbitrary nature, that the revolt took definite form in the doctrines of the physiocratic school. The basic principle of this school was natural liberty. *Laissez faire, laissez passer* was its motto. According to one of its tenets most insisted on, manufactures and

[1] Scholasticism, as it is a complete system of philosophy, may be said to have been the first in Christian times. The writings of Plato, Aristotle, and other ancient philosophers contain discussions concerning economic problems.

commerce were sterile; agricultural and extractive industries, those activities which produced raw materials, were the only truly productive ones; they alone yielded a *produit net,* a real excess over the cost of producing. The physiocrats were effective chiefly in a destructive manner. A large part of their efforts were employed in criticising the legislative restrictions on manufacturing and trade. As opposed to governmental guidance and restriction, they offered individualism and natural freedom. Adam Smith followed and agreed with the physiocrats in advocating this freedom in industry and commerce, but he opposed their proposition that agriculture and the extractive industries alone were productive, though he thought that they were more productive than commerce or industry.

One of the best-known passages in the "Wealth of Nations" is that in which Smith points out the advantages of the division of labor. Mankind, according to him, has learned that it can increase its productive powers by the division of labor because some men are especially adapted for doing certain work. He used pin-making as an illustration, and showed that even in his day by dividing the work among a number of artisans, each skilled in some particular operation, every man could make, or assist in making, at least 240 times as many as if he worked alone. As individuals should specialize, so nations should specialize in those branches of agriculture or industry to which they are best adapted, and thus increase the total production of the world.[1] He then pointed out that division of labor is limited by the extent of the market, and believed that the market might best be extended by the greatest possible freedom of ex-

[1] Adam Smith, "Wealth of Nations," Book I, Chapter i.

change.[1] He believed that a nation prospers by each individual's pursuing his own advantage.

The "Wealth of Nations," therefore, was an attack on mercantilism and a plea for free trade. Its author believed that unrestrained and undirected individualism was beneficent in effect, and that most governmental guidance should be done away with. He says, "By pursuing his own interest he [any individual] frequently promotes that of the society more effectually than when he really intends to promote it," [2] and again, that he is "led by an invisible hand to promote an end which was no part of his intention." [3] These and many other passages prove that Adam Smith was a pronounced optimist in regard to the harmony of human interests, as well as a free trader and an advocate of individualism. It is true, however, that Smith, unlike some of his followers, applied his own maxims with reason and caution, and granted that there were exceptional cases. For instance, even though they ran counter to his ideas of freedom of trade and governmental non-interference, he believed in the navigation laws, because they were for the defence of the nation, and, as he said, "Defence . . . is of much more importance than opulence." [4]

That the "Wealth of Nations" has been one of the most influential of books there can be no question.[5] "The political economy of Adam Smith has had a tremendous practical effect. The 'Wealth of Nations' has been translated into the languages of all civilized peoples. It has

[1] *Ibid.*, Book I, Chapter iii.
[2] *Ibid.*, Book IV, Chapter ii.
[3] *Ibid.*, a few lines above reference 2.
[4] *Ibid.*, Book IV, Chapter ii.
[5] It has the distinction of being the first book to be honored by a centennial commemoration.

almost everywhere directly or indirectly influenced legislation in a marked manner." [1] "The rapid spread of his ideas throughout Europe and their incontestable supremacy remains one of the most curious phenomena in the history of ideas." [2] The younger Pitt was one of his followers and admirers. In 1786 Pitt concluded a treaty with France abolishing many of the protective duties between the two countries, thus giving practical proof of his belief in greater freedom of commerce.

But with this exception Adam Smith did not live to see his teachings embodied in legislation; the practical effects of his ideas were to come later. "Smith persuaded his own generation and governed the next." [3] Apparently he did not expect that his ideas would ever be adopted, and despite all that has been said of how decidedly the "Wealth of Nations" influenced the thought of the times, it is extremely doubtful whether it could have achieved the practical success it did achieve had not events so shaped themselves as to strengthen the position of those who adopted the views of the author.

The industrial revolution was the most important of these events. By the inventions and enterprise of Watt, Arkwright, Hargreaves, Crompton, and others, England was in his time becoming the greatest of manufacturing nations. The "industrial revolution" was a revolution in the sense of the completeness of the changes that took place in industry. In another sense usually connoted by the word, namely suddenness, it was

[1] L. H. Haney, "History of Economic Thought," New York, The Macmillan Co., 1922, p. 220.

[2] Reprinted from C. Gide and C. Rist, "History of Economic Doctrines," translation by R. Richards, p. 103, by special permission of D. C. Heath and Company, New York. All rights reserved.

[3] Gide and Rist, *op. cit.*, D. C. Heath and Company, p. 103.

not. Here, as perhaps in other cases, we must not allow the use of the word "revolution," perhaps first used in this connection by Blanqui in 1837, and objected to by some [1] because it gives and probably was meant by Blanqui and others to give the idea of suddenness, to preclude the idea of evolution. The so-called industrial revolution began about 1720, possibly earlier, and has probably not yet run its course. It is true that with some justification it may be contended that even in the sense of time it is a revolution, for two hundred years is a rather short period in the history of industry: more profound, more startling, and more revolutionary changes have occurred in the last two hundred years than in the three thousand years that preceded this remarkable era of discovery, invention, and change of methods of production. In this sense it is a revolution; but in the sense intended by many writers it is not. It did not begin in 1770 and end in 1790; it began long before 1770 and still pursues its course.[2]

During the Napoleonic wars these inventions and new processes reached a point where they were already affecting England's industries. As a result, in part, of the genius [3] of a long series of inventors, business adventurers, and organizers, cotton cloth could be made for a fraction of what it had formerly cost. The methods, processes, and inventions which proved so successful in the cotton industry were adopted in other industries, and it soon became evident that machinery, operated by power obtained from the steam engine, could be used in nearly all productive processes. And just at this auspicious

[1] A. P. Usher, "The Industrial History of England," Boston, 1920, p. 249.

[2] *See* pp. 129-130.

[3] *See* discussion in Chapter IX as to what were the causes of the industrial revolution.

moment, England, as a result of her maritime supremacy and the disturbed state of Continental Europe, controlled, or almost controlled, the commerce of the world. As a consequence of these extraordinary conditions, England's industries made immense strides. Following on these events there came in England a rapid growth in numbers, in wealth, and in importance, of a class receptive to the ideas of free trade and capable of furthering them. Population and enterprise were shifting to the north midlands, and large manufacturing towns—Manchester, Birmingham, Leeds, Sheffield, and others—were growing in much the same way as the manufacturing towns of the Middle West in this country have been growing in the last few decades. The manufacturers of these towns were establishing and extending plants with a rapidity which threatened to cause production to outrun consumption, and were eagerly searching for markets to absorb their growing output. It was beginning to be realized that England's tariff policy hampered exports as well as imports, and that there was little hope of securing freer access abroad for the products of English industry as long as England refused to make concessions in the importation of foreign goods.

Under these circumstances the ideas of Adam Smith were sure to make progress. In 1820 a petition for free trade, written by Thomas Tooke, author of the "History of Prices," and subscribed to by many of the most prominent merchants of London, was presented by Alexander Baring to the House of Commons.[1] In 1823 Huskisson [2]

[1] Cambridge Modern History, New York, 1907, Vol. X, pp. 771-772. *See also* G. Armitage-Smith, "Free Trade Movement and its Results," London, 1903, p. 46.

[2] Dictionary of Political Economy, 1st edition, London, 1900, Vol. II, p. 148.

put through his reciprocity of duties bill modifying the navigation acts. In 1824-25 he was able to pass measures repealing the prohibition of importations of foreign manufactured silks, and bounties on exportation of silk manufactured goods. He also succeeded in having the import duties on wool reduced.[1] But as yet there was no possibility of actual free trade; there was, indeed, considerable bitterness over what had already been done. The woolen manufacturers, though they wanted free wool, refused to agree to free export of English wool. Nothing further could be effected at this time.[2]

England, though now the greatest of industrial nations, was still backward in some kinds of manufactures. She was inferior to France in all the finer textile arts, and Germany surpassed her in scientific methods of metallurgy.[3] In cheap textiles, however, especially in cotton goods, in the manufacture of which the new machinery was first used, England was supreme; but the manufacturers felt that they might export more if wages were lower, and they argued that wages would be lower if food were cheaper; hence they found themselves opposed to the landed interests in their desire for a repeal of the so-called corn laws, acts imposing a duty on wheat and other grains when imported. Also they believed that agricultural countries like Hungary and Poland would buy more manufactures of England if they could pay for them with exports of foodstuffs. The fact is that England was no longer able to feed herself. Thus began the agitation for the repeal of these laws, and by some for free trade in general.

[1] Stephen Dowell, "History of Taxation and Taxes in England," London, 1884, Vol. II, p. 264.

[2] J. F. Bright, "History of England," New York, Vol. III, p. 1379.

[3] Cambridge Modern History, Vol. X, p. 755.

The battle for free trade was thus to a great extent a contest between landowners and manufacturers. The opposing factions were joined not only upon this issue, but, simultaneously, upon the question of factory legislation. "The Free Traders taunted the land-owners with the miserable wages paid to agricultural labourers, and with the fact that their rents were swollen by the excessive prices taken from the very poorest of the population for the necessities of life. The land-owners could make no effective direct reply, so they in turn reproached the manufacturers for drawing their profits out of the toil of miserable children beaten in order to make them keep pace with the machines. When Parliament had intervened to protect the operative, the argument became more one-sided. It was still more one-sided because the manufacturers after 1842 could urge that they had been deprived of the protection which the fiscal system had previously given them, and that they had accepted the alteration willingly." [1] Later the country gentlemen voted gladly for further factory legislation, not so much because they sympathized with the mill hands, as "because it seemed a method by which they could get even with the representatives of the manufacturing towns for the repeal of the corn-laws." [2]

In 1838 the Anti-Corn Law League was founded.[3] By its paper, called "The League," and by an active canvass and an unusually violent agitation, it succeeded in convert-

[1] Gilbert Slater, "The Making of Modern England," Boston, Houghton Mifflin Co., 1913, p. 142.

[2] A. G. Warner, "American Charities," New York, Thomas Y. Crowell Company, 1919, p. 16.

[3] Richard Cobden was the leader in this movement. Other important "repealers," as they have been called, were Bright, Villiers, and Prentice.

ing the opinion of the country to its views.[1] The cotton manufacturers were the most influential element in the Anti-Corn Law League. Besides desiring the repeal of the corn laws because they thought it would help the exportation of cotton goods and lower the price of bread, they believed that the doctrine of free trade and its general adoption would be furthered if Great Britain, the home of Adam Smith, led the way; and with freer trade they hoped to increase their exportation of manufactured goods. Finally, they felt that a lower price for food meant better nourished and more efficient operatives.[2] To these practical considerations was added the belief that the triumph of their ideas was for the general welfare of the country.

In 1841 Sir Robert Peel became Prime Minister. "Told in the briefest form, the story is that Peel came into office in 1841 to maintain the Corn-laws, and that in 1846 he repealed them."[3] In 1840 a committee appointed to consider import duties had recommended that taxes on many articles should be abolished. In 1842 Peel succeeded in abolishing, in conformity with the report, many duties, and in lowering others. "The general principle was that all raw materials and all semi-manufactured articles should be imported under nominal duties only, and that the duties on manufactured articles should not be prohibitive."[4] Owing to good harvests, the free traders seemed to gain little between 1842 and

[1] John Morley, "Life of Cobden," Boston, 1881, p. 97. *See also* Armitage-Smith, *op. cit.*, pp. 63-64.

[2] G. Slater, *op. cit.*, p. 139.

[3] Justin McCarthy, "History of Our Times," New York, Harper and Brothers, Vol. I, p. 216.

[4] Slater, *op. cit.*, Boston, Houghton Mifflin Co., 1913, p. 141.

1845.[1] In that year, however, the harvests were very poor, and in Ireland there was a complete failure of the potato crop. Peel proposed a repeal of the corn laws, but, finding his colleagues dissented from him, resigned. Lord John Russell attempted to form a cabinet, but failed, and Peel again resumed office, with Gladstone as Chancellor of the Exchequer in Lord Stanley's place. In 1846 Peel proposed the gradual repeal of the corn laws. The duty was to be much lower for three years, after which time, February 1, 1849, all grain was to be admitted at one shilling duty. The bill was finally passed by both houses of Parliament.[2] Peel generously gave to Cobden [3] the credit for the success of the repeal movement, but had it not been that England had at that time a man who was not afraid to change his former opinions, and who had little regard for his future political career, it is possible that the corn laws would not have been repealed in 1846. As it was, Peel was unable to continue in office, and was succeeded by Lord John Russell.[4] Its work having been accomplished, the Anti-Corn Law League was dissolved on the second of July, 1846. It had been ably directed and its object vigorously pursued.

In advocating the repeal of the corn laws, Cobden, Bright, Villiers, and others had used general free trade arguments, and hence it is not surprising, so well and effectively had they agitated, that all, or nearly all, restrictions on commerce and industry soon disappeared in England. In 1849 the navigation laws, or what remained of them, were repealed by Gladstone. In 1853 he repealed the duties on 123 articles, and lowered the

[1] *Ibid.*, p. 142.
[2] Slater, *op. cit.*, p. 143.
[3] Morley, *op. cit.*, p. 261.
[4] McCarthy, *op cit.*, Vol. I, pp. 274-275.

duties on 133 others.[1] In 1860, after great difficulties had been overcome by Cobden, who in an unofficial way had represented the English government in Paris, a treaty was concluded by which Great Britain agreed to lower the duties on brandy and wines, and abolish the remaining duties on manufactures, and agreed not to impose again an export duty on coal to France. France in turn agreed to abolish prohibitions on British goods, and to lower duties on British textiles, manufactured iron, machinery, tools, glass, leather, and some other commodities to less than 30 per cent *ad valorem*.[2] The negotiation of this treaty, which lasted until 1882, was made possible by the attitude of the Emperor Napoleon III, who possibly was influenced quite as much by political as by economic motives. The French economist Chevalier contributed materially to the success of Cobden's mission. In accordance with the engagements entered into in this treaty, Gladstone, as Chancellor of the Exchequer, reduced the number of taxed imports to forty-eight, and removed the last duties on manufactures.[3] By this tariff act Great Britain became a free trade country, for with the exception of the timber duty abolished in 1866, and the duty on sugar repealed in 1875, there were no protective duties levied after 1860.

Undoubtedly England adopted the free trade policy at the correct time. Her manufacturers had nothing to fear and very little to learn from foreign competitors. The removal of the restrictive duties on imports not only led to their increase but, by leading to a corresponding increase of exports, provided an expanding market for British industrial products. Changes at this time in the com-

[1] Armitage-Smith, *op. cit.*, p. 93. *See also* John Morley, "Life of Gladstone," New York, 1903, pp. 461-462.

[2] Armitage-Smith, *op. cit.*, p. 94.

[3] *Ibid.*, p. 94.

mercial policies of other countries facilitated the growth of England's foreign trade. British agriculture suffered, it is true, but by this time it had become evident that England's destiny lay in industry; and free trade, coming when it did, made it possible to take this destiny at the flood.

CHAPTER II

THE SPREAD OF THE FREE TRADE MOVEMENT

The tendency toward free trade was not confined to England. All over the civilized world a movement toward free trade, or at least freer trade, is noticeable from about 1820 to 1870, although no very substantial progress in this direction was made in any other country than England until after 1860.[1] Though the English treaty had been made possible by Napoleon III, who, as has previously been stated,[2] was influenced largely by political considerations, nevertheless there were in France many earnest believers in the theory of free trade. Nearly all the French economists, such as Say, a follower of Adam Smith, and Bastiat, who helped to make the doctrine popular in his "Sophisms of Protection," were out-and-out free traders. It is therefore not surprising to find France a country of moderate duties during the next quarter of a century, though nearly all the manufacturers and many of the landowners were dissatisfied and constantly agitating for a higher tariff. In Prussia the movement toward free trade began as early as 1807, and even the *Zollverein* did not alter the rates very much. In 1842 the movement was halted, and the tariff rates were raised on certain articles; but in 1862, as a result of the treaty with France, Prussia entered on a period of low customs duties. The tariffs of 1868, 1870, and 1873

[1] From 1846 on there were lower rates in the United States.

[2] *See* p. 17.

moved in the same direction, and after that very little was left of the protective system. In the United States the same tendency, beginning in 1833, is discernible. The downward movement was checked, to be sure, by the tariff of 1842, but was renewed in 1846, when the Democrats again came into power. In Italy, Russia, Austria, and elsewhere, the middle of the nineteenth century witnessed a general lowering of tariff rates, and an amelioration of commercial restrictions in general. In fact, the period from about 1840-1845 to 1870 is known as the free trade era, though, with the exception of England, no country actually adopted free trade. In general these nations not only materially lowered their tariff schedules, but did it in such a way and under such circumstances that the impression was widespread that an actual free trade era was at hand. Nearly every political economist of note was a free trader, and the trend of thought among statesmen, and in general among educated classes the world over, was predominantly toward freedom of exchange and individualism, as against restrictions on trade and governmental interference of any kind.

One reason for the development of sentiment favoring a freer exchange of commodities in the early part of the nineteenth century was the demand in Continental Europe and America for the products of the new machine processes. These products, textile and others, were cheaper than they had ever been before, and were desired by many who, if the duties were low enough, could afford to buy them. In fact, many articles formerly considered luxuries obtainable only by the rich, and generally beyond the means of the average man, were now, as a result of the new machine industry, being produced and sold in England at prices which made it possible for the

man of moderate income to purchase them. An entirely new market had opened up, and this market had a tendency automatically to enlarge itself; for every increase in sales made it possible for the manufacturers, by means of further division of labor, lowered overhead, and improved processes, again to reduce prices and thus again extend the market.[1] This was the beginning of our present industrial world. It is very much newer than is commonly realized.

It must be remembered that the manufacturers on the Continent and in the United States were not politically, or in any other way, so powerful as at present. In the United States, the South—and, at the time of which we are writing, to a great extent the North—opposed high tariffs. The South assumed that it would always be an agricultural region; and New England was, in the early nineteenth century, interested chiefly in navigation. Furthermore, the so-called natural protection, the advantage that home industries possess by reason of the expense of carriage or freight, then much greater than it was later, was supposed to afford sufficient or nearly sufficient protection for the various industrial pursuits. Moreover outside of England there was a lack of capital for new industries; and as the manufacturers in other countries could control only their home markets, then very limited, and generally not even all of these, manufacturing could not be undertaken on a large scale. Finally, in the United States there were special reasons for a partial triumph of free trade. This country possessed an almost unlimited amount of unoccupied land—land that was proving surprisingly fertile. When it is possible by a very moderate

[1] A very good illustration of this tendency in recent times has been seen in the automobile industry.

amount of industry to acquire a large fertile piece of soil, it cannot be expected that men will work for others for wages, even for wages that, compared to the European scale at that time, would have seemed extraordinarily high. Benjamin Franklin was one of the first to note this fact.[1] Manufacturing cannot compete on even terms with agriculture [2] where there is such a large amount of fertile land, free or nearly free, as there was in the United States in the first half of the nineteenth century. In fact, there has never been such a situation in the history of the world as that which existed during the first three-quarters of the nineteenth century in America. For the first time, land, and fertile land, could be obtained in some cases for literally nothing, and always for very little; and this land was in a country in which there was a stable government, a government where all men had equal political rights. During this same period extraordinary mineral resources

[1] Ugo Rabbeno, "The American Commercial Policy," London, 1895, pp. 71-80. Franklin was entirely mistaken as to the time it would take for the complete settlement of what was then the United States, to say nothing of the vast lands in the West which have since become part of this country. Of course he could not foresee the railroad and the other developments, such as the increase of population in Europe and emigration to the United States, that were to come as a result of the industrial revolution. However, it is very probable, had there been no industrial revolution, that his statement that it would take centuries to settle the United States would have been disproved. His statement that it is difficult for manufactures to arise where there is a great abundance of fertile land is correct. *See also* W. A. Wetzel, "Benjamin Franklin as an Economist," Johns Hopkins University Studies, 13th series, 1895.

[2] On the other hand, regions of sterile soil are quite likely to be manufacturing centres. Tyre, Athens, Venice, and Holland are illustrations of this. "'The Sienese are richer in land, the Florentines in industry,' and this may be compared to Aristotle's maxim: 'The more barren the soil, the richer the city,'" E. Staley, "The Guilds of Florence," London, Methuen and Co., 1906, p. 554. *See also* F. D. Graham, "Some Aspects of Protection Further Considered," Quarterly Journal of Economics, Vol. 37, Nov., 1922, pp. 214-215. *See also* pp. 31, 149.

were being discovered every year, and these, because they always excite hopes of sudden wealth, have ever tended to draw large portions of the population from other pursuits. Again, there was the question of slavery, that "peculiar institution" which caused the South to feel that it could never undertake manufacturing, and which also divided the North and the South politically. The South felt instinctively that to help the North might mean that the latter, grown prosperous, would become powerful enough politically to abolish or limit slavery, and thereby injure the South.

Finally, the free trade doctrine was an extremely alluring theory; it was new, and possessed the attractiveness of novelty. It seemed logical and simple. Its very name was winning. It appeared to many to herald the dawn of a new era, and the early Victorian age was one of hopefulness and optimism. Realizing the strength of this current of thought, one may understand the confidence of the early free traders, all the more marked because in such strong contrast to the pessimistic view held by the first great free trader, Adam Smith, who felt it was futile to hope that the world, or any great part of it, would ever adopt free trade. Cobden believed that all nations would follow England's example; and when he predicted that if England adopted free trade every tariff schedule in Europe would be altered, he meant, of course, that they would be lowered.[1] He was, indeed, in a certain sense correct; for, as we have seen, they were all altered, and in the direction expected; but not to the extent he hoped. His death in 1869 prevented his witnessing the reaction, the end of the so-called free trade era, and the

[1] Speech in the House of Commons, January 15, 1846. *See* Armitage-Smith, *op. cit.*, p. 145, note.

return everywhere, except in England, to higher tariffs and protection.

In 1861, before the Civil War broke out, the Morrill tariff act raised most of the American schedules; and since the Republican party remained in power during the war, when every device for raising money was resorted to, it was natural that the tariff rates should be increased very decidedly from time to time. This was the beginning.[1] From then on the tendency in tariff rates was upward in nearly all countries,[2] and the free trade era was over. The question naturally arises, why? Why was this general downward tendency halted? Why this reaction just as the economists were insisting that the question was settled?

It is not easy to give a simple answer to this question. There are undoubtedly several reasons for the remark-

[1] It was the beginning, but the rates were not high. The rates were meant to be largely the same as in the tariff of 1846. In particular there was a desire to adopt specific rates instead of the *ad-valorem* ones then prevailing. There were two reasons for the act: one was to attract the votes in the coming presidential election in protectionist states, such as Pennsylvania; and the other, since there had been a falling off in the revenues from duties, the apparent necessity to have higher rates in order to increase the receipts of the government. There was practically no discussion of the merits of free trade and protection.

It is important to remember that this act was passed in May, 1860, by the House, and was passed by the Senate on February 20, 1861, by a vote of 25 to 14, after the Senators of some of the southern states had withdrawn. It was not a war measure; there was practically no expectation of war when it was passed by the House, and even when it was passed by the Senate there were still hopes of peace. It is necessary to point this out, as the contrary is often assumed. In fact, Professor J. E. T. Rogers, in his "Economic Interpretation of History," New York, 1899, pp. 294 and 384, made the ridiculous statement that the act was the price of the allegiance of Mr. Morrill to the Union. The war ensuing, the rates were, as stated in the text, increased materially in the acts of 1862 and 1864.

[2] The upward tendency did not begin in Europe until ten or fifteen years later.

able, and, to the free traders, quite unexpected reversal of policy. In fact, while it was in progress, especially at the beginning of the new protectionist era, each high tariff act appeared as exceptional. Probably no one realized in the seventies that the tendency toward free trade had gone as far as it would go for the present, and that a new protectionist age was at hand; for this was the very time when most professional economists complacently assumed that the orthodox-classical school of political economy had positively established itself, and that none of its doctrines were more definitely settled than those connected with the theory of foreign trade. And yet there were those who questioned the so-called laws of classical political economy, and few, if any, of its doctrines had been allowed to pass unchallenged. Most of the early critics had been more or less effectually silenced; but others now appeared with a different form of attack. They advocated the inductive method: history should be studied; and experience, not doubtful so-called economic laws, should be our guide. At the very height of the free trade era, Friedrich List had written his "National System of Political Economy," using to some extent the arguments that Hamilton had put forward fifty years before in his famous "Report on Manufactures." In urging the necessity of protection as the proper policy for most civilized countries except England, he appealed to history for proof of his contention.

Far more important in results than the attack by the historical school on the classical school, however, was the rise of nationalism. This was, of course, not a new movement; rather it was the culmination of a tendency which began at the Renaissance. This tendency, this feeling of nationalism, this group instinct, had been intensified

by the loss of unity that had resulted from the Reformation and the religious wars that followed it (though it may be said that it itself had been one of the causes of the Reformation). The Napoleonic wars had for a time delayed its final development, but at the same time in some ways had strengthened it. In the middle of the last century it again appeared, its most striking results being the unification of Italy and Germany. As the spirit of nationalism developed it was perhaps inevitable that each nation should desire to be as far as feasible self-sufficient, and endeavor even in trade to be as little dependent as possible on other nations, all of which were regarded as potential enemies. As a consequence of this attitude, there was a feeling akin to resentment at the commercial and industrial supremacy of England. Statesmen of other countries instinctively felt that it could not be to the advantage of their countries that they should at all times be dependent on English manufactures; and that, despite all arguments to the contrary, it could scarcely be wise to increase British wealth, and to allow England to remain indefinitely—as she then undoubtedly was—the "workshop of the world." England's position was indeed unique, for she was not only the greatest industrial nation the world had ever known, but also the mistress of the seas, and to a great extent controlled the world's commerce.

It is, therefore, not too much to say that all other nations were envious of England's great wealth and her commanding industrial and commercial position; and especially since this supremacy was fairly recent, it was felt to be not wholly natural, but to some extent an accident of history, for England had until recent times been an agricultural nation, rather backward in the industrial

arts. How had this change taken place? If it was an accident of history, what were the important events that had made a comparatively small island the home of the greatest industrial and commercial nation of all time? This is an interesting question, but it will be well to postpone a further consideration of it until we come to a general survey of the nature of industrial development. We must now turn our attention to the development of the protectionist movement in the United States, and the revival of protectionism in Europe.

CHAPTER III

THE RETURN TO PROTECTION

No better introduction to a study of the protective movement which swept the world in the seventies and eighties can be had than is furnished by a consideration of the early protectionist movement in the United States. The economic and political phenomena in the new world and the old, despite differences of a temporary nature, were fundamentally not unlike, and the thought and literature which the American movement brought forth, in the writings of Hamilton, List, and Carey, had a powerful influence on the later protectionist writings in Europe. The strong and self-conscious nationalism of a new-born state, and the possibilities of industrial development in a country of its continental proportions and great natural resources provided a setting which was duplicated later in Germany and Italy. In both Europe and America the highly developed industry of England threatened the existence of newly introduced manufactures, and therefore on both continents the protectionist position was upheld by writers whose arguments it will be profitable to examine.

By far the ablest of the American protectionists was Alexander Hamilton. He saw clearly and far into the economic situation in the United States of his time, and he left an indelible mark on the economic policy of the American government. In December, 1791, Hamilton, at the behest of Congress, presented his famous "Report on Manufactures." This document, which is one of the

ablest state papers ever presented to the American government, or to any government, stated the case for protection in a fashion as convincing as it has ever been stated.[1] Hamilton disposed effectively of the physiocratic contention that agriculture was the sole enterprise which added to the wealth of the country, pointed out the advantages to be derived from cultivating home industry during the disturbed state of foreign commerce existing at the time, and went on to build up a strong and convincing case for the protection, by the state, of manufactures. He maintained that the encouragement of manufactures would lead to the following advantages:

1. The division of labor.
2. An extension of the use of machinery.
3. Additional employment to certain classes.
4. The promotion of immigration from foreign countries.
5. The furnishing of greater scope for the diversity of talents and dispositions which distinguish men from each other.
6. The affording of a more ample and varied field for enterprise.
7. The creating in some instances of a new, and the securing in all of a more certain and steady demand for the surplus products of the soil.[2]

We shall have occasion to examine Hamilton's arguments in a subsequent chapter. Suffice it to say here that later American protectionists probably owe more to the "Report on Manufactures" than to the writings of any other man.

In spite of Hamilton's insight and influence, however,

[1] *See* footnote 2, p. 100.

[2] F. W. Taussig, "State Papers and Speeches on the Tariff," Cambridge, 1893, p. 15.

the early tariffs of the United States were by no means distinctly protective. Some twenty-five tariff laws were passed between 1790 and 1816, and almost all the duties imposed were designed for revenue purposes rather than for protection.[1] The government during this period found great difficulty in devising an adequate system of taxation, and consequently relied on the tariff for the bulk of the revenue of the state. But events contributed to the American manufacturer what the government denied. Up to 1808, the Napoleonic wars were the cause of a marked increase of wealth in the United States, which became during this period the great carrying nation of the world. After 1808 the Embargo and Non-Intercourse Acts and the War of 1812, taken together, acted as heavy or high protection for the new American industries which were started at that time to supply the wants of the American people, now cut off from Europe. These events helped materially to introduce and protect the new machine processes. The weakness in this country was due to the fact that there were no old industries, such as existed in France, Germany, and other Continental countries, on which to build up the new machine manufacturing technique. During the colonial period there had been many restrictions on manufactures; in fact, practically all manufacturing in the colonies was forbidden. It may be true, as Ashley[2] endeavors to prove, that these restrictions were not in most cases important, inasmuch as it was not profitable at that time for the colonies to engage in manufacturing; but it is probable that had not these restrictions been enacted there

[1] The first tariff act, that of 1789, was, however, intentionally protective. *See* William Hill, "First Stages of the Tariff Policy of the United States," American Economic Association, 1893, pp. 107-109.

[2] W. J. Ashley, "Surveys, Economic and Historic," London, 1900, pp. 309-335.

would have arisen a number of small industries which might have proved important later as the nuclei of larger industries. Whether or not this is true, the essential point is that they did not exist.

Of greater disadvantage to the manufacturers of the United States, however, was a serious lack of labor, not merely skilled labor, but labor of any kind. Where fertile soil exists in such abundance as in the United States in the first half of the nineteenth century, the number of those who wish to work in shops must be very limited. As already stated, never in the history of the world had there been such an opportunity for man to gain large tracts of fertile land so easily. Moreover, it was very easy to dispose of the produce of the soil by exporting it to Europe, and agriculture generally was extraordinarily profitable. In the South, after the invention of the cotton gin by Eli Whitney, and the great development of cotton manufacturing in England, the growth of cotton planting was, as everyone knows, remarkable. This absorbed all the energy and capital of the southern states to the exclusion of manufactures. It is evident that had it not been for the Embargo and Non-Intercourse Acts, the War of 1812, and the impossibility of getting many of the commodities which the people of this country desired, American manufacturing would never have had a chance to make a healthy and vigorous start; but as has been said, the cessation of trade as a result of these acts and the War of 1812 made it possible for the American manufacturers, even with their limited experience, their crude machines, and unskilled labor, to operate profitably.

After the Napoleonic wars there was a distinct reaction, and for a few years American manufacturers suffered severely from European, chiefly British, com-

petition. After Waterloo, England was free and able to supply at low prices all those wares the production of which had been favorably affected by the new industrial processes introduced before and during the war; in fact, she began to "dump" the products of her industries in the United States and elsewhere.[1] This dumping brought forth a cry for protection from

[1] Some idea of this dumping in the United States may be gathered from the following: "The manufacturers of Great Britain, well knowing the needs of the American markets, made haste to send over their goods, which, in the early summer of 1815, began to arrive in fleets of merchant vessels, in such quantities as had never before been known. Coming over consigned to nobody, the goods were hurried by the supercargoes and captains in charge of them to the auction block, where, to the surprise of the owners, high prices were obtained by the sharp competition of eager buyers. . . . During April, May, and June, 1815, the duties paid at the New York custom-house on goods, wares, and merchandise brought from England amounted to $3,960,000. When the news of the great profits and quick sales at auction reached Great Britain, whole fleets of vessels were loaded and despatched to America. On one day in November, 1815, twenty square-rigged ships came up the harbour of New York. On another day fifteen ships and eight brigs arrived; and what went on at New York was repeated at every seaport along the Atlantic coast. The gainers by this unusual trade were the British manufacturers, the British ship-owners, the auctioneers, and the Federal and State treasuries. The sufferers were the American importers, manufacturers, and wholesale merchants, who without delay appealed to Congress for protection." J. B. McMaster, in Cambridge Modern History, New York, The Macmillan Co., 1906, Vol. VII, pp. 354-355.

Lord Brougham, in a speech delivered in the House of Commons, April 9, 1816, said that "it was well worth while to incur a loss upon the first exportation, in order, by the glut, to stifle in the cradle those rising manufactures in the United States which the war had forced into existence contrary to the natural course of things." J. Viner, "Dumping: a Problem in International Trade," p. 42. This was an indiscreet utterance, but perhaps even more indiscreet was that of a British Mining Commissioner of 1854, who wrote in part as follows: "I believe that the labouring classes generally in the manufacturing districts of this country, and especially in the iron and coal districts, are very little aware of the extent to which they are often indebted for their being employed at all, to the immense *losses* which their employers voluntarily incur in bad times in order to destroy foreign competition, and to gain and keep possession of foreign markets." Report of the Commissioner . . . to inquire into . . . the State of the Population in the Mining Districts, 1854, p. 20; *see also* Viner, *op. cit.*, pp. 46-47; *and* E. B. Bigelow, "The Tariff Problem," p. 41.

the manufacturers adversely affected, and it resulted in higher tariffs in general.

The act of 1816 has often been called the first distinctively protective tariff adopted in the United States. To a considerable extent it came about as the result of the protest against the British dumping noted above; but although this was a temporary affair, the protective policy was not; and the tariff acts of 1824, 1828, and 1832 imposed duties distinctly higher than could have been justified for purely revenue purposes. It was during this period that List and the elder Carey were active in the United States, and their activity was crowned with some measure of success. Friedrich List, who has been called the man who first made protectionism into an organic and scientific system,[1] lived in the United States from 1825 to 1830, a political refugee from Germany. He published in 1827 his "Outlines of American Political Economy," which contains in brief the thoughts which later made up his "National System of Political Economy." His theory of economic stages and of the necessity of protection to insure progress from one stage to another, a theory which we shall have occasion to examine later, was but a particular expression of the infant industries argument, an argument which singularly fitted economic conditions in the United States at the time. List considerably influenced the American protectionist movement, and was even more profoundly affected by it. He carried the conclusions derived from his experiences back to Germany, and was instrumental in securing the limited protection the *Zollverein* saw fit to adopt.

Matthew Carey was little more than an agitator for the protectionist cause, and his son, Henry C. Carey, did

[1] Ugo Rabbeno, *op. cit.*, p. 326.

his most effective writing at a period when the United States was reducing rather than increasing its tariff duties. The compromise tariff of 1833 deprived American manufacturers of a considerable degree of protection. After the tariff act of 1842, which was decidedly protective, they had a period of prosperity for a few years. This was succeeded in 1846 by a lower tariff, and the duties were lowered again in 1857. During the eleven years from 1846 to 1857 the manufacturers did fairly well, as it was a period of great prosperity in the country. On the other hand, no substantial progress was made. In 1857 there was a panic, and there was no real recovery between this panic and the Morrill act of 1861.

As we have seen, the United States as well as Europe moved in the direction of freer trade from about 1830 to 1860, after its early flurry of protection. But on both continents this movement was short-lived. Free trade reached its high point in the sixties, and soon began its swift decline. Remarkable as the revival of protectionism was, it was not a wholly unaccountable occurrence. In the first place, the impetus of the free trade theory had by 1860 somewhat spent its force; other matters of more absorbing interest were attracting the attention of statesmen and those who, by their writings, influence public opinion if they do not create or direct it. In Europe the spirit of nationalism, which later was to bring about the unification of Germany and of Italy, not only engaged the thought of the active minds of those countries, but ran counter to the underlying internationalism with which the doctrine of free trade was bound up. In the United States the struggle over slavery and after the war the problem of reconstruction absorbed attention. Moreover the *laissez-faire* theory, of which free trade was a part, was

fast losing its hold: it had been bitterly and successfully attacked, and the new factory or machine age, which had come as a result of the industrial revolution, had produced problems that were insoluble except by measures wholly inconsistent with it. Despite all the efforts of economists and others who believed as they did, Lord Ashley, afterwards the Earl of Shaftesbury, had put through Parliament his Factory Act, at the very time when the classical school was strongest. People would not condemn little children to slavery and death when to give them protection merely required laws which contravened a new and to a great extent untried theory.

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Another important reason for the revival of protectionism was the gradual realization among statesmen and business men outside of England of the growing importance of machine manufacture in modern life. England was at this time the most powerful nation on earth, and it was natural that Continental and American statesmen should understand that she owed her greatness, to a considerable extent, to her wealth, and her wealth in turn to the extraordinary development and superiority of her manufacturing industries, a development and superiority which, it was patent, were due largely to the fact that she was the pioneer machine manufacturing country of the world. Moreover it was perfectly apparent that owing to England's great start in machine production—a start which she owed not only to her great inventors and *entrepreneurs,* but also to an age-long freedom from invasion, and especially to her domestic peace during the turmoil on the Continent following the French Revolution, and perhaps above all to the great market afforded by her colonies—the manufacturers of other nations unaided would not for many years be able to catch up with those

of this great industrial nation. Thus developed the doctrine of protection to infant industries. Hamilton, in his famous "Report on Manufactures," as has already been stated, called attention to this matter; and in fact it was so apparent that even Mill, great free trader and Englishman that he was, felt obliged to make this concession to protectionism.

In truth the disadvantages under which France, Germany, Belgium, and other Continental nations labored were great. They were at this time at a stage in industrial development attained by England perhaps fifty or sixty years previously. England had perfected her industrial technique, had developed a large body of labor habituated to and skilled in manufacture, had established mercantile and financial connections abroad, and in general was in a position which rendered free competition exceedingly difficult, if not impossible. If Continental countries and the United States were to extend their manufactures, some measure of tariff protection was necessary. Not only was the economic situation ripe for protection, but there arose at this time, particularly in Germany, a school of economists which included a number of able exponents of this policy.

List published his book, the "National System of Political Economy," in 1841. Although it had no immediate effect in Germany or elsewhere, it considerably influenced the younger members of the historical school, who, writing in the eighties and nineties, emphasized the importance of Germany's following an economic policy adapted to Germany's economic conditions. This historical school of economists, which appeared in Germany in the middle of the nineteenth century, was composed of the intellectual representatives of the forces which were

making Germany into a unified nation. Of the older members, Roscher, Hildebrand, and Knies were the most prominent; of the younger, Schmoller and his disciples. Although there was very little unity in the position taken by the school, there was a rather general agreement on certain propositions and methods of approach. They were all strong nationalists, and all firm believers in the relativity of economic theory, if they took any stock at all in economic theory. The Manchester or free trade school of economists in England furnished them with a stock example of an unhistorical and absolutist method of approach. The Manchester school, or *Manchestertum* as they called it, created a body of economic theory on assumptions valid only for contemporary England, and then attempted to palm this off as a body of truths valid for all places and for all times. In harmony with this attitude, the Manchester school also took the position, with reference to its chief doctrine, that since free trade was good for the England of the nineteenth century, it was good for the Germany, the France, and the United States of the nineteenth century.

This tenet the historical school, and Schmoller in particular, strenuously denied. England had attained its industrial and commercial position, in their opinion, largely through its policy of high protection in the seventeenth and eighteenth centuries. They quoted Adam Smith's approval of the seventeenth century navigation laws on the ground that the foundations of England's naval and commercial supremacy were laid by this policy. England had gone through the difficult period of industrial transformation without having to meet the competition of foreign manufactures. Now that British industry was strong and secure, now that the protective policy could

be dispensed with, now that the problem of English manufacturers was to find markets in other countries rather than to safeguard their own, British economists, according to the German view, rather hastily leaped to the conclusion that what was to the interest of England was to the interest of every other country. These German economists urged their countrymen to follow the practice which had made England great; and here their recommendations agreed with those of List. England, they maintained, had kept protection until her industry was fully grown and matured; then, when the problem had become one of finding export markets for the products of British shops and factories, and when a restrictive tariff policy would only increase the cost of foodstuffs and raw materials used in manufacturing, she had adopted free trade. Let Germany and those in Germany's economic situation do likewise. Protection should be applied until Germany had accomplished the transformation from an agricultural to an industrial state.

The very strong nationalistic trend of these economists' writings, and their preoccupation with the problems which faced the Germany of their day, gave to their pronouncements an importance and influence which do not usually attach to the work of academicians. The economic condition of Germany, in connection with the powerful writings of this school, led to a marked change in Germany's tariff policy, beginning late in the seventies. The tariff of 1879, drafted and sponsored by Bismarck, was protective, though not highly so, and rather from accident than from design.[2] It was followed in the eighties by an almost universal movement in the direction of higher

[2] W. H. Dawson, "Protection in Germany," London, 1904, Chapter v.

tariffs. Russia increased its duties in 1881 and 1882; in 1882 France and Austria did the same. From that time on, one has seen a continuous series of tariff changes in European countries and in the United States, and almost invariably they have been upward rather than downward.

The tariff controversy in Germany has been particularly significant to those interested in the ideas behind tariff policy, for the debate on the merits and deficiencies of a self-sufficient state raged in that country during the nineties and later. The battle was waged around the issue of protection to agriculture, and those who supported this policy, the *Agrarstaat* party, among whom may be named Wagner, Oldenburg, and Pohle, expressed concern in regard to the excessive industrialization of Germany. It was rapidly becoming impossible for the country to produce enough foodstuffs to support its population. To secure them from abroad meant, in the first place, the difficulty of finding foreign markets for Germany's manufactured products, and, in the second, the danger that the supply might be shut off during war or other catastrophe, with serious results to the German people. Moreover there was a further danger—a perfectly evident danger—that with the increase of population agricultural countries, particularly the United States, might cease to have an export surplus. Finally, Wagner and his followers objected to the growth of crowded cities, which they considered undesirable. On the other side, Brentano, Dietzel, and others, exponents of the *Industriestaat* point of view, held that the industrialization of Germany meant that labor and capital were turning to those pursuits in which productive factors could, in Germany, be most effectively applied. The increasing export of manufactured goods and the increasing import of agricultural

products were phenomena not to be deplored, but to be commended: it meant that Germany was getting her foodstuffs and raw material on much easier terms than if she had produced them herself. Although a discussion of the merits of this controversy must be relegated to a later chapter, it is pertinent here to note that the agrarian interest, the exponents of the self-sufficient economic state, won the victory in Germany, with the result that the duties on agricultural products were considerably raised in the nineties and later.

The movement for protection or tariff reform, as it was called, affected English politics also, though it had less effect there than elsewhere. Led by Joseph Chamberlain, the British tariff reform agitation, which reached its height in 1903 and 1904, centred particularly around two issues: first, protection was desired against the dumping of manufactures from Germany and the United States, a practice particularly prominent at that time; and second, protective duties were urged in order to give preference to imports of colonial products, and thus help establish firm economic bonds between the members of a more closely united British Empire. But the tradition of free trade was so strongly established in England that little could be done, and the tariff reformers had to wait for results until after the World War.

The years since the War have seen an almost universal upward movement of tariff duties.[1] Even England departed from the tradition of almost a century's stand-

[1] "The course of tariff history in the early years of post-War reconstruction manifested a trend in some respects more pronouncedly toward high and widespread protection than had been exhibited before the War. With the extension of the movement to the newer countries, and with the possibility of the downfall of free trade in its oldest home, the policy of Hamilton, List, Carey and Wagner seemed to carry everything before it." A. H. Cole, Encyclopædia Britannica, 13th edition, 1926, Vol. III, p. 733.

ing by raising instead of lowering its duties. In the United States the act of 1922 was distinctly more protective than the Underwood tariff of 1913; in fact the duties were probably higher than in any previous American tariff, with the exception of the act of 1909. Everywhere the post-War controversy has largely revolved around two main issues. First, the dumping brought about by the world-wide depression of 1921 and that caused by the rapid depreciation of exchange in central Europe have caused a score of anti-dumping tariffs to be enacted in the last five or six years. The importance of the dumping issue has increased so rapidly in the last two or three decades that now it receives an attention nearly comparable to that accorded the infant industries argument. The growth of large-scale enterprises capable of disposing of part of their surplus output abroad at lower prices than at home has concentrated attention upon this practice, and the effect of rapidly depreciating exchanges has sharpened the public interest in it. In the second place, the conduct and outcome of the War have tremendously increased the desire in all countries for economic independence. The effect of the blockade on Germany illustrated strikingly the importance of controlling the supply of vital commodities. Hence the interest in much of the tariff controversy in recent years has been focussed on the question of protecting "key industries." No country in the world is, of course, so far flung or so well equipped economically but that some of the commodities essential to its welfare must be imported; and it is equally true that no country is so well equipped economically but that some of its commodities which, as far as climatic conditions are concerned, could and with slight encouragement would be produced at home, will under free trade be imported.

Thus in all countries the question of guaranteeing a supply of these latter commodities has been agitated, but in no country more persistently than in England.

The last ten years have been so important in regard to the tariff policy in that country that the English movement demands more than cursory attention. In 1916, Mr. McKenna, a former free trader, secured the passage of a series of duties of 33 1/3 per cent on the importation of clocks, watches, motor cars, motor cycles, and a few other commodities. The free traders were partially pacified by the assertion that these duties were for the purpose of discouraging expenditure for luxuries, and to insure ship space for necessary imports. It was expected that the duties would be repealed at the close of the War. But the end of the War saw no such action. In 1919 Lloyd George as Prime Minister, and Austen Chamberlain as Chancellor of the Exchequer made the duties preferential for the benefit of the British colonies. Lloyd George took another step toward protection in the Safeguarding of Industries Act of 1921. The first section of this act provided for a 33 1/3 per cent duty on nine classes of articles supposedly produced by key industries and essential to success in war. The second provided for a dumping duty against both dumping of the ordinary sort and that produced by exchange depreciation. It seemed as though England were definitely starting on a protectionist policy; but on January 22, 1924, the Labor party with Philip Snowden as Chancellor of the Exchequer, came into power and took a step in the opposite direction. In his first budget he repealed the McKenna duties and instituted a series of reductions in the duties on other articles. But this reaction was short-lived; for in July of 1925, the McKenna duties, together with higher charges

on the importation of silk and a few other commodities, were reimposed by Winston Churchill, the present Chancellor of the Exchequer.

Thus the matter stands; and England, which has for the last half century and more been, to all appearances, irrevocably committed to the policy of free trade, is again, as in the forties, the battle ground for protectionists and free traders. There seems little doubt that the controversy which has been waged in such active fashion for the last two centuries is still active enough to continue for some time to come. To understand this vitality, we must inquire more carefully than we have as yet had opportunity to do into the nature of the case for free trade and for protection.

CHAPTER IV

THE FREE TRADE THEORY

"Stated in its simplest form, the principle which underlies the doctrine of free trade is almost a truism; it is directly deducible from the very notion of exchange. Adam Smith and his successors have demonstrated that in every case of voluntary exchange each party gains something that is of greater value in use to him than that with which he parts, and that consequently in every exchange, either between individuals or between nations, both parties are the gainers. Hence it necessarily follows that, since both parties gain through exchanging, the more facilities there are for exchange the greater will be the advantage to every individual all round. There is no difficulty in translating this principle into the terms of actual life and stating the conditions in which it holds good absolutely. If, at any given moment, the mass of goods in the world are distributed among consumers with the minimum of restriction on interchange, each competitor would obtain the largest possible share of the things he procures in the world's market." [1]

"It is the maxim of every prudent master of a family, never to attempt to make at home what it will cost him more to make than to buy. The tailor does not attempt to make his own shoes, but buys them of the shoemaker.

[1] W. Cunningham, Encyclopædia Britannica, 11th edition, Vol. XI, p. 89. Perhaps it ought to be stated that Dean Cunningham was a protectionist. There are two further quotations from this article: *see* pp. 84-85, 87.

The shoemaker does not attempt to make his own clothes, but employs a tailor. The farmer attempts to make neither the one nor the other, but employs these different artificers. All of them find it for their interest to employ their whole industry in a way in which they have some advantage over their neighbours, and to purchase with a part of its produce, or, what is the same thing, with the price of a part of it, whatever else they have occasion for. What is prudence in the conduct of every private family, can scarce be folly in that of a great kingdom.[1] If a foreign country can supply us with a commodity cheaper than we ourselves can make it, better buy it of them with some part of the produce of our own industry, employed in a way in which we have some advantage." [2]

The latter quotation is the most important part of Adam Smith's argument for free trade. After further explaining and elaborating it, he admits four possible exceptions: first, he approves of the English acts of navigation, not because they are economically wise, but because "defence is . . . of much more importance than opulence," and he believes that these acts were necessary for the safety of England; second, he believes in protecting vested interests; third, he considers it wise to put an import duty on any article on which a tax is imposed at home; and fourth, he states that retaliatory tariffs might have some justification.[3]

Smith's views may be summed up in the maxim that it is always wise to buy in the cheapest market. After Adam

[1] "The main argument in favor of free trade between nations . . . is a simple corollary from the principles of the division of labor." F. W. Taussig, "Principles of Economics," New York, The Macmillan Co., 1915, Vol. I, p. 508.

[2] Adam Smith, *op. cit.*, Book IV, Chapter ii.

[3] *Ibid.*, Book IV, Chapter ii; *see also* p. 93.

Smith the doctrine of international trade was further developed by others, chiefly by Ricardo, Mill, Cairnes, and Bastable. According to the theory in its final form, it is not only wise for a nation to procure from some other nation that which such nation makes at less cost than itself, but in certain cases to obtain from another country a commodity in which it has an advantage in the cost of production. Ricardo calls attention to this in the following words: "Two men can both make shoes and hats, and one is superior to the other in both employments; but in making hats, he can only exceed his competitor by one-fifth or twenty per cent., and in making shoes he can excel him by one-third or thirty-three per cent.;—will it not be for the interest of both, that the superior man should employ himself exclusively in making shoes, and the inferior man in making hats?" [1] Of course it is obvious that it is to the advantage of the superior man to make shoes and to that of the other to make hats. And so it is in our modern life. Each producer makes, as a general thing, only one commodity or part of a commodity, even though an exceptionally skillful man might be able to make each of two or more commodities with less labor than the average.[2]

Within a nation this principle, which is known as the principle of comparative cost, produces very natural

[1] "Principles of Political Economy and Taxation," Gonner's edition, 1891. p. 116, note.

[2] "The lawyer finds it advantageous to turn over to his clerk that work which he could do as well as the clerk, or even better, confining himself to the tasks in the profession for which he has by training or inborn gift still greater capacity. . . . The skilled mechanic often has a helper to whom he delegates the simpler parts of his trade." F. W. Taussig, "Some Aspects of the Tariff Question," Cambridge, Harvard University Press, 1915, pp. 30-31.

results; for if one state, say Illinois, has an advantage in the production of each of two commodities over Massachusetts, both of these commodities will eventually be made in Illinois, even though the advantage possessed by Illinois is greater in the case of one commodity than it is in the other, because there would be no reason for the continued production of either of these articles in Massachusetts. Almost as soon as the facts are known the capital and those engaged in the production of these commodities in Massachusetts will move to Illinois.[1] But when applied to different nations, this principle of comparative cost or comparative advantage, according to Ricardo, Mill, and others, produces very different results. Then it acts as in the case of individuals,[2] as in the case of the two men in the quotation we have just made from Ricardo. Thus, according to the doctrine of comparative cost of classical political economy, it pays a country not only to import those things which other nations make more cheaply than itself, but further to import even those commodities which it produces or could produce more cheaply than other countries, but in which it does not possess a *comparative* advantage. "Briefly stated, the doctrine is that a country tends under conditions of freedom to devote its labor and capital to those industries in which they work to greatest effect. It will be found unprofitable to turn to industries in which, though labor and capital may

[1] That is, most of the producers and most of the capital would emigrate to Illinois. Of course, some capital might be lost or go into other channels and some of the workers might adopt another mode of livelihood. If the superiority were wholly due to the labor in Illinois, it is possible that the workmen might move to Massachusetts under certain circumstances.

[2] The reason the individual is like the nation is perhaps evident. He is unable and generally unwilling to transfer his skill to another, and of course rarely willing to transfer his capital.

be employed with effect, they are applied with less effect than in the more advantageous industries.[1] The principle is simple enough, nor is it applicable solely to international trade. The conversant reader does not need to be told that it bears on the division of labor between individuals as well as on that between nations." [2] The quotation from Ricardo already given illustrates the truth of this last statement.

The reason given for this peculiarity of foreign trade is the comparative immobility of capital and labor between distant places, especially between countries. It is maintained that capital and labor move fairly freely within a country,[3] but do not move freely from one country to another, or at least do not move as freely across international boundary lines as within. This, of course, raises the question as to what in this sense a country or a nation is. For instance, are Scotland and England separate nations? The point is that for this particular purpose a nation is a political entity under one central government, within the territory of which the same or similar customs, language, and so on prevail. There can be no question that for several reasons capital and labor do not move freely from one nation to another; the differences of currency, of banking systems, of languages, of customs and laws, and so on, all contribute to this effect. It must be understood that absolute immobility of capital and

[1] A marked instance of this was brought about by the gold discoveries in Australia. *See* H. Sidgwick, "Political Economy," New York, 1901, pp. 211-212.

[2] F. W. Taussig, "Some Aspects of the Tariff Question," Cambridge, Harvard University Press, p. 30.

[3] In the case mentioned it was assumed that there would be a tendency for labor and capital to emigrate from Massachusetts to Illinois.

labor is not necessary for the substantiation of the doctrine.

This law of comparative cost or comparative advantage has been controverted by Cliffe Leslie,[1] Laughlin, Devas, and others, and is under serious attack at a number of points at the present time.[2] But despite their objections it is still maintained, and undoubtedly when stated with the necessary qualifications is substantially correct. Evi-

[1] "The distinction which Mr. Mill has drawn between international trade and home trade, in respect of the transferability of labour and capital, and the equalization of wages and profit, if it had once some foundation when trade at home was simpler and better known, and when foreign countries were almost wholly unknown, cannot now be sustained. Not that the doctrine of the equality of profits, and of the determination of comparative prices by comparative cost of production is now applicable to both, but that it is applicable to neither. It was a step in the right direction to recognize its inapplicability to the exchanges between different countries, but the further step is now required of abandoning it altogether." T. E. Cliffe Leslie, "Essays in Political Economy," London, 1888, p. 232.

Sir William Ashley says the theory of comparative advantage is "an almost esoteric doctrine of a few abstract English economists." "The Tariff Problem," Westminster, P. S. King & Son, 1904, p. 74. He, however, concedes it contains an element of truth. Perhaps today Professor Taussig is its chief and most able upholder. His interesting studies of the question in his various books have, it seems, proved its importance. *See* "Principles of Economics," Vol. I, pp. 488-491; *see also* "Some Aspects of the Tariff Question," Chapter 3.

"Dr. Ingram . . . admits Ricardo's theory of comparative costs to be 'just and interesting'; but, when Cairnes describes it as 'sounding the depths' of international trade, Dr. Ingram finds the phrase magniloquent. Professor Held, eminent and lamented among the Germans of the new school, considered the theory a curiosity in economic literature, and handled it with very scant respect; though it is but fair to add that, as is often the case with the protesting economists, his own discussion showed, in its details, less real divergence from the classic doctrine than his depreciation of it would lead us to expect." F. W. Taussig, "Tariff History of the United States," 2nd edition, New York, G. P. Putnam's Sons, 1896, p. 329.

[2] *See* Edward F. Mason, "The Doctrine of Comparative Cost," Quarterly Journal of Economics, November, 1926, Vol. XLI, No. 1, pp. 63-93. *See also* pp. 205-206.

dently, however—and this is a point that has not been much commented upon [1]—this doctrine of comparative advantage cannot be pushed to its extreme logical conclusion; for if it is true that a country should abandon any industry in which it possessed a less advantage as compared with another industry, then by a process of elimination it might finally possess only one main industry, that in which it had the greatest comparative advantage. And indeed this is a possible argument against free trade, for no one pretends that a country of one industry would be a progressive and happy country. To be sure, in a nation of continental proportions and with varying climates and soils, like the United States, which, in an economic sense may, perhaps, be looked upon as several countries, there would in all probability be more than one occupation. Nevertheless, Patten alleged that if free trade were adopted there would be three belts across the United States, one of wheat, one of tobacco, and one of cotton.[2] Of course, he meant that there would be three principal pursuits, for obviously there would have to be many minor ones.

But the situation in a free trade country cannot be as bad as it seems from these statements, for here natural protection (the cost and difficulty of transportation), the differences of advantage in each industry and the differences of advantage in location within a country, the ten-

[1] It has, however, been noted by both Patten and Wagner. Wagner attacked the English theory of international trade on this ground: he said that it could mean that a country might be limited to the production of one commodity only, and thus forfeit the advantages that accrue from having many pursuits, or it might mean that a country would be driven in this way to devote itself to the most undesirable industries, those in which ill-paid and sweated labor was employed. *See* Percy Ashley, "Modern Tariff History," London, 1910, p. 134.

[2] Simon N. Patten, "Economic Basis of Protection," Philadelphia, 1890, p. 87.

dency of profits to fall as a result of competition, and above all the limitation of the market, come in and protect all those industries and pursuits which have a comparative advantage above a certain point, a point at which the industry can be profitable without help. Finally we have proof that a free trade country is not confined to one pursuit. The only real free trade country is (or was) England,[1] and it has many industries. "In an ideal —and we might call it utopian—distribution of the world's productive forces, the division of labor and of trade which rests solely on comparative difference in costs would not exist. But as men and nations are, no small part is played by the great historical gulfs between nations and races and by the resulting immobility of labor." [2]

It has been necessary to treat of this important and somewhat intricate part of the classical theory of international exchange because not only would no statement on the subject of free trade be complete without it, but more particularly because, as will be shown later, it is of extreme importance, especially in connection with the development of protection in America. But it must be borne in mind that the law of comparative cost covers only a part of international trade, and that in the case of the greater part of the trade between nations, the principle of *absolute* advantage operates. "In the most numerous instances, each country obtains articles for the production of which it has no great facilities, by exporting those goods which it produces with comparative ease. The coal and iron of England are exchanged against the wines and silks of France, with great advantage to both parties

[1] But would England have many industries if free trade were universal?

[2] F. W. Taussig, "Principles of Economics," New York, The Macmillan Co., Vol. I, p. 491.

concerned, and such is the normal character of international exchange." [1]

The fundamental soundness of some of the principles of free trade cannot be disputed by an honest and informed person. It is perhaps for this reason that, despite the great amount that has been written on the subject of free trade and protection, it is difficult to find a clear and simple statement of the theory of the former. Most of those who have written in favor of nearly complete freedom of exchange have chiefly occupied themselves with arguing against protection, because though the doctrine of comparative cost may be somewhat difficult, intricate, and elusive, the main argument, that it is best for each individual to buy in the cheapest market, seems so evident that it appears unnecessary to prove it. "Free trade appears to be an obvious dictate of common sense rather than the product of refined and difficult theory." [2] "When I was asked . . . to write something in defence of Free Trade, it seemed to me . . . as if I had been asked to prove Euclid." [3] Forty or fifty years ago the statement in the latter quotation was certainly the view of nearly all educated Englishmen and of most of those on the Continent and in the United States who were at all informed on the subject. It is undoubtedly on account of this obviousness of the fundamental doctrine of free trade that so many writers and speakers favorable to it have experienced a certain impatience and petulance with all those who differ with them. Therefore, because it appeared so evident to them, most advocates of free trade, assuming or asserting that the burden of proof was on

[1] C. F. Bastable, "Theory of International Trade," London, The Macmillan Co., 1903, pp. 17-18.

[2] Dictionary of Political Economy, London, The Macmillan Co., 1900, Vol. II, p. 144.

[3] T. H. Farrer, "Free Trade Versus Fair Trade," London, 1882, p. 1.

those who upheld protection, have said surprisingly little of an affirmative character for the doctrine they were advocating, but have devoted most of their attention to the errors, real or supposed, of protectionist writers, and to the evils which they asserted, proved, or attempted to prove, resulted from protection.

To point out the fallacies of some protectionists was an easy task, for many of the arguments used by protectionist writers and speakers with little or no knowledge of political economy were unsound, often purely mercantilistic in character, and could easily have been refuted by anyone who had taken an elementary course in economics. In fact, many editorials and political speeches of to-day are mercantilistic in inspiration. The most common evidence of this is the constant talk about "favorable" trade balance. To be sure, in some cases the writer or speaker is informed and is commenting in a correct way about this important commercial matter; but in many cases it is clear that to the writer or speaker, even though possessed of a slight knowledge of economics, the favorable balance in international trade represents in some degree, at least, the same thing that a merchant's profit represents in ordinary business.[1] To his mind a favorable balance here is nearly as much a gain, and an unfavorable balance a loss, as a favorable or unfavorable

[1] "Of course, we are pressing this export business as far as we can practically for obvious reasons; among others, because we want a place to put our goods, as it so materially affects the employment of our labor and also because it so materially affects the balance of trade. The broad view of this question is that when we can justly do it—when we can fairly do it—we want to bring all the foreign money we can into this country." Testimony of Judge Gary in defence of the dumping policy of the United States Steel Corporation before the House Committee on Merchant Marine and Fisheries, Washington, as reported by the Iron Age, Vol. 77, April 19, 1906, pp. 1324-1325. *See also* W. H. Hamilton, "Current Economic Problems," Chicago, 1919, pp. 315-316, article by Hon. C. W. Fairbanks.

balance between gross income and expense is a gain or loss in the case of a merchant or a manufacturer. That a so-called favorable balance continued over a number of years might result in a national loss never occurred to many people until such a possibility presented itself after the Great War. Only when one realizes the essential barter character of international trade does one grasp the fact that a continued so-called favorable balance may be a dangerous thing. Such balance usually means one of three things: first, that a nation is a debtor nation and is paying its interest, or very likely its interest and part of its debt in that way; second, that a nation is making investments abroad, or what is almost the same thing, is selling on long time; or third, that some other nation (or nations) is carrying its exports and imports; or a combination of any of these three. Like any individual who loans or invests money or who sells on long credits, such a nation may be obliged to lose part or all of its loan or investment. England, in the past, has lost a good deal in this way, and it is quite probable that we shall lose something as a result of the numerous favorable balances during and since the War.

The fallacy that a favorable balance is always desirable has been common among uninformed protectionist writers and speakers, and has made the work of some free trade writers a pleasant task, for it was not difficult to controvert. Of this error, Mill said, "The only direct advantage of foreign commerce consists in the imports. A country obtains things which it either could not have produced at all, or which it must have produced at a greater expense of capital and labour than the cost of the things which it exports to pay for them. It thus obtains a more ample supply of the commodities it wants, for the same labour and capital; or the same supply, for less

labour and capital, leaving the surplus disposable to produce other things. The vulgar theory disregards this benefit, and deems the advantage of commerce to reside in the exports: as if not what a country obtains, but what it parts with, by its foreign trade, was supposed to constitute the gain to it. An extended market for its produce—an abundant consumption for its goods—a vent for its surplus—are the phrases by which it has been customary to designate the uses and recommendations of commerce with foreign countries. This notion is intelligible, when we consider that the authors and leaders of opinion on mercantile questions have always hitherto been the selling class." [1] As a matter of fact, it is often undesirable that a country should have a favorable balance continued over a great number of years. It means a serious drain on its natural resources, and, if payment is not eventually made in imports or services, an actual loss. A continued favorable balance over a very long period would mean that a country had given more than it had received. The favorable balance of this country before the War was perfectly proper. As a debtor nation we were paying interest and part of our principal; we were also paying for American travelers abroad and for our ocean freights. Remittances of immigrants to native countries were another cause for our excess exports.

It can be seen from the foregoing example, and from what is to follow, that the case for free trade has been very useful in combating the fallacies with which the protectionist position has been involved. The conception of international exchange as a barter of goods for goods, whereby the productive agents in the exchanging countries have been directed into those channels to which they are

[1] J. S. Mill, "Principles of Political Economy," Book III, Chapter xvii, paragraph 4.

best suited, while an incomplete and perhaps distorted picture of reality has been effective at times in correcting mistaken views. One reason for the over-simplification of the international trade theory in the case for free trade is to be found in the fact that many of the economists who resorted to it, chiefly the lesser lights such as McCulloch, Torrens, Bright, and Cobden, were not scientists primarily, but propagandists. They molded the theory to fit their own needs, and in consequence obtained a product that was good for little else. But in so far as it permitted the free traders to dispose of arguments which were nothing more than an encumbrance to the protectionist case, the theory in its most axiomatic and elementary form is to be treated with respect.

Such was its service in disposing of another protectionist fallacy, *i.e.*, that the imposition of a protective tariff will necessarily and immediately be followed by an increase in wages. If this were the case, it might be an engaging work for philanthropists; but we do not find that they are the ones who are the most concerned about this matter. But as this particular fallacy has seldom been heard in any country except the United States, and is now hardly ever put forward in this country, it is scarcely necessary to refute it.[1] A much more common

[1] It is well, however, to recognize that under certain circumstances the tariff might be so applied as to raise wages. The productive factors, land, labor, capital, and business ability are used in widely different proportions in different industries. A carefully applied protective tariff, by shunting industry into those lines in which the proportion of labor to the other factors was high, might easily raise wages. However, this would probably diminish the national dividend, even though it might benefit one class which receives the income. *See* T. N. Carver, "Principles of Political Economy," Boston, 1919, Chapter xxix, pp. 352-355; *see also* A. C. Pigou, "Protective and Preferential Import Duties," London, 1906, p. 11; *also* Pigou, "The Riddle of the Tariff," London, 1903, p. 31. Pigou belittles this possibility.

fallacy, probably the commonest of later years, is that we must have a tariff, not to raise wages, but because wages are already high in the United States. In recent years this argument has taken the form that the tariff should be based on the difference of the cost of production, such difference to be determined largely by the difference in wages in this country and in Europe. No one has answered this so well as Professor Taussig. "Evidently the argument is not of universal application. How could there be any exports at all, if lower wages always gave the foreigner an advantage? As much is exported (virtually as much) as is imported. The exported goods are made by laborers who get high wages in the United States; yet these goods, so far from being undersold in foreign countries, are themselves underselling those of the foreigners. The explanation is simple: the efficiency of labor in the exporting industries is great, and therefore high wages and low prices coexist. And that effectiveness is the *cause* of the high money wages; and these wages, again, may or may not be accompanied by high prices of the domestic commodities which are outside the realm of international trade. This whole subject cannot be understood except in connection with the principle of comparative costs. In those industries in which the United States has a comparative advantage in effectiveness, high wages can be paid, and yet low prices accepted, with profit to the employing capitalists. In those in which there is no such advantage, the current high wages cannot be afforded. In this latter case, though labor be as effective as in the competing foreign countries, and though the industries in that sense are well adapted to the country, they encounter the difficulty that other industries are still better adapted, yield still larger returns, and set up a prevalent high rate

of wages which these less advantageous industries cannot sustain."[1]

"In current discussions on the tariff and wages, it has often been alleged that in one industry or another the efficiency or skill of the workmen is no greater in the United States than in England or Germany; that the tools and machines are no better, the raw materials no cheaper. How then, it is asked, can the Americans get higher wages unless protected against the competition of the Europeans? But, it may be asked in turn: suppose *all* the Americans were not a whit more skilful and productive than the Europeans,—perhaps quite as skilful, but not more so; suppose the plane of effectiveness to be precisely the same throughout the realm of industry in the countries compared; how *could* wages be higher in the United States? The source of all the income of a community obviously is in the output of its industry. If its industry is no more effective, if its labor produces no more, than in another community, how can its material prosperity be greater and how can wages be higher? A high general rate of real wages could not possibly be maintained unless there were in its industries at large a high general productiveness. But when once these two concomitant phenomena have come to exist,—a high effectiveness of industry and a high general rate of wages,—it follows that any industry in which labor is *not* effective, in which the plane of effectiveness is below that in most industries, finds itself from the business point of view at a disadvantage. It must meet the general scale of wages in order to attract workmen; yet the workmen do not produce enough to enable that general scale to be met

[1] F. W. Taussig, "Principles of Economics," New York, The Macmillan Co., Vol. I, pp. 513-514.

and a profit still secured. Such an industry, in the terms of the principle now under discussion, is *ipso facto* working at a comparative disadvantage. . . . Where a man who is paid high wages turns out a larger number of pieces, each piece can be sold at a low price, and the employer still can afford to pay the high wages. With reference to individuals, the business world is constantly accepting this principle. A good man, we are told, is cheap, even at high wages. To use the same phrase, a good industry is cheap even though high wages are paid in it. Where labor is effective, high wages and low prices go together." [1] All this has to do with the general rates of wages. Of course no one disputes that protection raises and keeps up the wages of those employed in industries which are dependent on protection.

Similarly efficacious has the theory of international trade proved with the home market argument in its crude form. To those who have believed that the development of American manufactures would supply the farmers of this country with an additional market for their produce it has been comparatively easy to demonstrate that a cessation of imports of manufactured articles means a compensatory cessation of exports. Consequently in gaining a home market for their produce the farmers were losing a foreign market. In addition it can be pointed out that in all probability the farmers will immediately have to pay more for their manufactured goods than they paid before.

There is no need to exhaust the range of protectionist fallacies which the theory of international trade, as conceived by the free traders, has been able to dispose of.

[1] F. W. Taussig, "Some Aspects of the Tariff Question," Cambridge, Harvard University Press, pp. 33-34.

It is sufficient to emphasize what is undeniably an important fact, that the theory of international trade, even in the crude and incomplete form given it by the disciples of Smith and Ricardo, has been a powerful instrument for the clarification of thought on the subject of protection versus free trade.

CHAPTER V

FREE TRADE FALLACIES

Toward the close of the last chapter, attention was called to the fact that the free trade doctrine has been of service in disposing of some of the fallacies of protection. But the very simplicity of the formulation of the free trade doctrine has at times itself been deceptive; and under a character apparently axiomatic have lurked serious omissions and positive errors. Consequently some of the statements made by free trade writers will not bear examination, and a few of these we shall now consider.

One statement more common once than now,[1] and used especially in the nineteenth century, was that protection stopped progress, that manufacturers protected by tariff duties did not endeavor to improve processes, used old methods and machinery, and generally were unprogressive.[2] The American manufacturers who in the past used old machinery, as mentioned in one of Wells' Reports,[3] did so because it was all they could get, either because the latest types of machinery were unobtainable,[4] being kept secret by those who had invented them, generally Englishmen, or were patented; or perhaps more com-

[1] However, this argument is still being used; *see* J. A. Hobson, "The New Protectionism," New York, 1916, p. 85; *see also* World's Work, November, 1926, pp. 6, 7.

[2] J. E. Cairnes, "Leading Principles of Political Economy," New York, 1874, pp. 402-405.

[3] Wells, Report of Special Revenue Commissioner for 1868, p. 74.

[4] The export of English machines was forbidden until 1825, and textile machinery until 1841.

monly, because by reason of the newness of the industry and its general precariousness they were unable to obtain the capital to purchase the latest machines.[1] It must be remembered that even fifty or sixty years ago capital was not so abundant, in this country especially, as it is now; and the credit of many of the manufacturers, most of whom operated on a small scale, was very limited. Of late years this taunt has lost its force. Long before the Great War it was evident that as a general thing American machinery and methods were the very best, and that in many kinds of industries European workshops and factories were far behind.

Other arguments for free trade that do not bear critical examination are those ironical ones in which it is suggested that, inasmuch as protection in the eyes of its friends is able to create wealth, it would be a good thing to put a tariff on tropical fruits and thus by high duties compel people to buy grapes and oranges raised in greenhouses in northern climates. Apparently Adam Smith was one of the first to use this argument, suggesting that grapes might thus be raised under glass in Scotland.[2] Perhaps the cleverest thing of this kind is Bastiat's famous petition of the candle-makers for the exclusion of sunlight so that by this means the sales of candles might be very greatly increased.[3] As a matter of fact, though there have been

[1] Porter, in his "Progress of the Nation," suggested as a reason for allowing exportation of machines that the English could sell the old models to foreigners and buy the improved ones. *See* William Roscher, "Principles of Political Economy," Lalor translation, Chicago, 1882, Vol. II, p. 448, note.

[2] "Wealth of Nations," Book IV, Chapter ii.

[3] F. Bastiat, "Sophisms of Protection," English translation of 1863 edition, New York, 1893, Chapter vii, p. 73. Though it is not generally known, Bastiat got his idea from Dean Swift's "Humble Petition of the Colliers, Cooks, Cook-maids, etc." *See* Dictionary of Political Economy, London, 1899, Vol. III, p. 504.

a good many rather foolish schedules in the various tariff acts of this and other countries, and though there may doubtless have been even more absurd attempts to introduce into bills clauses by which it was hoped to make profitable, at the public expense, some particular industries, not many serious efforts have been made to overcome marked climatic disadvantages.[1] At times people may have thought that certain tropical fruits or plants could be produced in this country, for instance, just as well as in some other country, and proposals for this reason to keep out a great part of the foreign products by high tariffs may have been made; but generally speaking, debates on the tariff have never centred around such attempts. The really significant tariff schedules in the United States (and elsewhere) have concerned themselves with those industries which, so far as anybody could see, could be carried on under as favorable climatic and other natural conditions in this country as in any other. These are industries which were at the time not carried on merely because they had not been started, or industries which, though they had been started, were unable to compete with certain extraordinarily profitable pursuits which, because they were older and therefore had greater skill available, or because for various economic reasons they

[1] "The classic economists did not often trouble themselves to analyze the causes of the differing effectiveness of labor in different countries, and perhaps reasoned too much as if these causes were all of a physical and unalterable sort. The late Professor Cairnes discussed the relative importance of personal aptitudes on the one hand, physical and geographical differences on the other, in determining the international division of labor, and concluded that personal aptitudes counted for little, except in the commerce of nations occupying different grades in civilization. The facts . . . point to a different conclusion—personal aptitudes count for much in the trade of the United States with European countries." F. W. Taussig, "Tariff History of the United States," 2nd edition, New York, G. P. Putnam's Sons, p. 330.

were especially adapted to be prosecuted in this country at the time, were particularly profitable, and without protection were drawing, and would continue to draw, most of the labor and capital away from less fortunately situated industries. In other words, protection has been sought chiefly for infant industries, or for those industries which, though they were fairly profitable, were not as profitable, in this country for instance, as agriculture or some particular kinds of manufacturing, for which the social and economic conditions of the country were *at the time* especially favorable.

It must, of course, be perfectly evident to the reader from what has been said [1] that many of these are the industries which may have the absolute but not the comparative advantage. They could be prosecuted profitably in the country if other pursuits were not more profitable. This indicates, as Professor Taussig has pointed out, what an important part the doctrine of comparative advantage plays in all tariff matters, especially in this country. The scientific protectionist (a very rare individual, to be sure) believes that certain industries which have the absolute but not the comparative advantage ought to be fostered, by means of artificial restrictions, in order, first, that the product of such industries may be available in war time, and second, in order that when the time comes, as it probably will come, when the industries can be carried on in free competition with other industries, they will be well established within the country. This belief is based on three assumptions: first, that the skill not only of the operatives but of the managing staffs of these businesses will greatly increase, and other industries will adapt themselves to their needs; [2] second, that

[1] *See* pp. 45-51, 57-59; *see also* p. 205.

[2] An extremely important matter and one often overlooked.

new processes peculiarly fitted to the particular country in which they are situated will be discovered; and third, that the extreme profitableness of some of the other pursuits will not continue, because abnormal and temporary. Therefore, would it not be folly on the part of statesmen to base an industrial and commercial policy on any fleeting and momentary condition of affairs that might for a time prevail, and to permit the temporarily less profitable industries to be crushed by competition with the more profitable ones?

There are some further statements which ought to be made in regard to what might be called the "grapes in Scotland" argument. After all, it may be a good thing to force some part of the world to raise grapes under glass. Perhaps by doing so we may develop a new kind of grape; indeed, we have already done so. Greenhouse grapes have an especial and delightful flavor of their own,[1] and by forcing the establishment of an industry through a protective tariff, new processes and valuable new products may result within a particular country. That is what Mill meant when, in approving Rae's doctrine of invention, he said, "Nothing has had a greater tendency to promote improvement in any branch of production than

[1] "Grapes grown under glass defy all others in beauty and meaty lusciousness. Not even the far-famed vineyards of Europe nor the favorable conditions of Californian climate and soil can produce anything comparable." Lord and Burnham Company catalogue, p. 42. Furthermore, if protection forced industry to a premature development in this country, may it not have been of general benefit to mankind? Labor being dear, and other pursuits having at the time superior advantages, it was necessary to resort to machinery in America to a greater extent than elsewhere. These attempts to use machinery were in many cases successful, and the work was done with less human effort. It must in the end be of advantage to the world at large that a certain piece of work can be performed in one day by one man as well as it was formerly performed by two or more men. Other countries will eventually adopt these labor-saving devices, and the world as a whole will thus benefit from them.

its trial under a new set of conditions." [1] It seems worth while to quote the whole passage from Adam Smith in regard to growing grapes in Scotland. "The natural advantages which one country has over another in producing particular commodities are sometimes so great, that it is acknowledged by all the world to be in vain to struggle with them. By means of glasses, hot-beds, and hot-walls, very good grapes can be raised in Scotland, and very good wine too can be made of them, at about thirty times the expense for which at least equally good can be brought from foreign countries. Would it be a reasonable law to prohibit the importation of all foreign wines, merely to encourage the making of claret and burgundy in Scotland? But if there would be a manifest absurdity in turning towards any employment thirty times more of the capital and industry of the country than would be necessary to purchase from foreign countries an equal quantity of the commodities wanted, there must be an absurdity, though not altogether so glaring, yet exactly of the same kind, in turning towards any such employment a thirtieth or even a three-hundredth part more of either. *Whether the advantages which one country has over another be natural or acquired, is in this respect of no consequence.* As long as the one country has those advantages and the other wants them, it will always be more advantageous for the latter rather to buy of the former than to make. It is an acquired advantage only which one artificer has over his neighbor who exercises another trade; and yet they both find it more advantageous to buy of one another than to make what does not belong to their particular trades." [2]

[1] *See* p. 119.

[2] "Wealth of Nations," Book IV, Chapter ii. The italics are not in the original.

It will be noticed that Smith qualifies the statement in italics by using the phrase "in this respect," and by this he apparently means the cheapness to which he had previously referred. So understood, his statement is correct, but as has been said, "inconclusive." [1] The average reader does not notice this; he is apt to take the passage as though these words "in this respect" were not there, especially since the word "always" follows in the next sentence. So taken, it is absolutely incorrect; for it is of fundamental consequence in every other respect, whether or not the advantages are natural or acquired. If the advantage is natural, it is wholly unwise, except for defence purposes, to protect any industry in a country which lacks this advantage, assuming that it is a considerable one. If the advantage is acquired, then the country at a disadvantage may acquire the skill that will remove the disadvantage under which it labors. This is the whole point of the infant industries argument. Natural advantages due to climate, large deposits of iron ore, coal fields, or other gifts of nature can never be offset by any commercial policy; but advantages which arise from a long heritage of industrial skill may be wholly neutralized by a new country's or a backward country's acquiring by means of a protective tariff or otherwise great skill in arts in which some other country or countries formerly possessed superior knowledge and skill.[2]

The second mistake in this passage is one similar to that for which Schmoller criticises Adam Smith.[3] There

[1] Moreover, though Smith protected himself by this phrase "in this respect," he evidently meant *in every respect,* as his "grapes in Scotland" argument indicates. "Such hedging is never intended to give, and does not really give, any serious qualification to the general proposition." Sir William Ashley, "A Retrospect of Free Trade Doctrine," Economic Journal, The Macmillan Co., Vol. 34, p. 507.

[2] *See* footnote, p. 63.

[3] *See* p. 84.

he assumes that the interests of a tailor and those of a nation are the same; here he assumes that the advantages acquired by an artificer are the same as the advantages acquired by a country. They are not the same. Life is not long enough for any artificer to learn a great number of trades; but a country composed of millions of people may acquire the knowledge of numerous industrial arts.[1]

There are some further fallacious arguments used against protectionism in the nineteenth century. In the United States, for instance, free traders asserted that protective tariff laws were unconstitutional. The protectionists won a decided victory in this matter, and in actual fact, won it through the lapse of time. As the century neared its close, it became absurd to assert that a policy adhered to for over a century, embodied in various acts of Congress, and assented to by the people, was unconstitutional. In a theoretical way, the argument was settled for all time by the evidence brought forth in a monograph entitled "The First Stages of the Tariff Policy in the United States," by William Hill, published by the American Economic Association in November, 1893.[2] Hill proved conclusively by his article that the members of the first Congress, many of whom had been framers of the Constitution, when drawing up the first tariff act in 1789, clearly meant it to be, as stated in the preamble, for the purpose of protection as well as for the purpose of revenue.

[1] *See* Roscher *op. cit.*, Vol. II, pp. 424-425, note 4.

[2] *See also* Edward Stanwood, "American Tariff Controversies of the Nineteenth Century," Boston, 1904, Vol. I, Chapter iii. Professor Taussig, in the early editions of his "Tariff History of the United States," had stated that the tariff act of 1789 was not protective in spirit. In the later editions he states that the tariff act of 1789 was protective in intention, and states further that he was led to modify his account of this act by Hill's monograph. *See* F. W. Taussig, "Tariff History of the United States," 6th edition, p. 15, note.

Many have objected to protection because of its political aspects.[1] But the great political scandals in this country have not concerned tariff making particularly, our greatest scandals have been connected with railroads, oil, and contracts of various kinds, nor have the so-called "swollen" fortunes resulted chiefly from protected industries. The first large fortune was connected with the fur trade, and later with increase in land values. The next great fortunes were connected with the development of railroad systems and the oil industry. Only a few of the protected industries have produced men of great wealth.

Another argument against the protective tariff is that it is the mother of trusts. The statement is made that if it were not for the tariff there would have been no incentive to the great combinations that took place toward the end of the last century and the very early years of this; that these combinations, or so-called trusts, were formed solely as a means of eliminating competition and raising prices. There is not the slightest question that these were some of the objects of the formation of many large industrial combinations; it was felt that in many cases competition had been ruinous, and had produced unsatisfactory conditions, and undoubtedly in some cases a monopoly was sought; but there were other and very important reasons for them. It was believed that they would be the means of effecting great economies in production, that the expense of selling the product would be materially reduced, and that other obvious economies would also result. Another cause of these industrial combinations in the closing years of the nineteenth century and the beginning of the twentieth was in many cases the

[1] *See* William Smart, "The Return to Protection," London, 1906, Preface, p. 4, and Chap. x, pp. 92-95. *See also* John Rae, "The Sociological Theory of Capital," edited by Charles W. Mixter, New York, 1905, p. 445, editor's note.

desire of men who had built up businesses to retire and withdraw their capital. In some cases these combinations were effected because it was believed that in this way more capital would be obtained to carry on the industry; in all cases it was hoped that, as a result of economies that were to be secured, or by raising the price of the products, the industries would prove to be more profitable. The astounding thing is that they were not more profitable. Professor Dewing[1] carefully examined the earnings of many both before and after they were merged into large industrial units, and discovered that the profits before combinations were effected were greater than afterwards. He found that, though large sums were spent in installing more efficient machinery and in developing improved processes, and though great economies in production and selling must therefore have resulted, nevertheless the profits were smaller. If these economies were achieved and the goods produced at a lower cost, then someone must have benefited by this lessened cost. As the corporations and stockholders did not benefit by increased profits, the benefit must have accrued either to the employees or to the public, or to both.[2]

Another objection to the protective tariff is partly of an aesthetic nature. It has been pointed out that the rural

[1] A. S. Dewing, "A Statistical Test of the Success of Consolidations," Quarterly Journal of Economics, Vol. 36, No. 1, November, 1921, pp. 84-94. It is perhaps fair to say that Professor Dewing apparently does not draw from his data the conclusions arrived at in the text, but his figures seem to prove the statements made above.

[2] The report of the delegation sent by the English government in 1926 to study industrial conditions in the United States and Canada gave as one of the reasons for American prosperity the prevalence of industrial combinations (or trusts), which by cheaper production, lessened overhead charges, and specialization have been able to sell their commodities at lower prices and at the same time materially increase wages. *See* Manchester Weekly Guardian, April 8, 1927.

simplicity of the early life of this country has been ruined by the industrial cities and villages. This is in some measure true; but the industrial development has been chiefly in the northeastern section of the country, where the rural life would in any event have declined because of the development of the West. If there had been no industrial life to take the place of the vanishing agricultural activities in the Northeast, then the population would probably have decreased very materially, even though there might have been a greater development of commercial life, such as there was in the early part of the nineteenth century. This objection on aesthetic grounds is a legitimate one so far as it goes. The development of the nation would have been somewhat different: the life of the country would have been more concentrated on agriculture and the extractive industries, and we should have been large exporters of raw materials to the industrial countries of Europe. Those who wish to do so may cherish the belief that a happier condition in this country would thus have been produced.[1] Others may believe that it would have been less satisfactory in that the eastern section of the country, which had been longer settled, would have had less influence in the nation's affairs, and it is questionable whether any diminution of its influence would have been desirable at that time.

Another argument that has been used against protection—in fact, one of the main arguments used against

[1] They might be led to alter their views somewhat by a reading or rereading of Dickens' "Martin Chuzzlewit" and "American Notes," and Mrs. Trollope's "Domestic Manners of the Americans." Dickens' usual tendency to exaggerate is of course well known, but the fact that he saw such a great improvement in this country twenty years later, during which time industrialism had made great strides, is worthy of note. *See* Postscript to "American Notes."

protection—is its cost. This is much less than is usually supposed.[1] Of those industries which are protected, some soon achieve independence, and from that time on are not a liability but an asset to the country which has acquired them. Among the others may be found some which are so unsuited to the social and industrial conditions of the country that, despite high protection, imports of the commodities which these high duties protect or attempt to protect continue in large volume. In such cases most of the import duties paid are revenue duties. There are certain other industries that are in a general way suited to the economic conditions of the country. In many cases they have an absolute but not a comparative advantage. They develop quickly, but despite efforts at improvement they still need protection. Yet it may be demonstrated that these industries place no great burden upon the community, at least much less of a burden than free traders are inclined to suggest.

In the first place, it would appear that as a result of

[1] "It is estimated that customs receipts for the present fiscal year will exceed $615,000,000, the largest which were ever secured from that source. The value of our imports for the last fiscal year was $4,466,000,000, an increase of more than 71 per cent since the present tariff law went into effect. Of the imports about 65 per cent, or, roughly, $2,900,000,000, came in free of duty, which means that the United States affords a duty-free market to other countries almost equal in value to the total imports of Germany and greatly exceeding the total imports of France. We have admitted a greater volume of free imports than any other country, except England.

"We are, therefore, levying duties on about $1,550,000,000 of imports. Nearly half of this, or $700,000,000, is subject to duties for the protection of agriculture and have their origin in countries other than Europe. . . . About $300,000,000 more is represented by luxuries such as costly rugs, furs, precious stones, etc. This leaves only about $550,000,000 of our imports under a schedule of duties which is in general under consideration when there is discussion of lowering the tariff." Annual message of President Coolidge to Congress, December 7, 1926. $550,000,000 is about 12 per cent of the total amount of imports. Thus it can hardly be said that the burden of the American tariff is excessive.

competition among the different units the prices of the commodities they sell are often very little above the price of similar articles if imported free. Imports of such goods may wholly cease and the disparity between domestic and foreign prices may be substantially less than the duty.

Another way of looking at the matter, more complicated but perhaps more incisive, is to consider the position of these partially suitable industries relative to the export and import trade of the country. Let us suppose that all the industries contributing to the exports of the country and all those foreign industries furnishing imports into this country are arranged in a scale according to the degree of their respective suitabilities to the domestic economic conditions. Each industry being represented by a letter, the industries beginning with A and descending represent a decreasing scale of comparative advantage for the nation, until at the bottom would be foreign industries which could be supported within the domestic area only by prohibitive tariff rates. In the case of the United States, for example, industries at the beginning of the alphabet might be cotton growing, steel-rail production, and the like, whereas at the lower end of the alphabet would be the production of certain tropical fruits.

Now we may assume that industries A to L are the domestic export industries and that they will be carried on in the country under free trade. In other words, they have both the absolute and comparative advantage. W to Z can scarcely be carried on in the country under any circumstances. M to V will be carried on only under a tariff. The whole protectionist controversy, therefore, concerns itself with those industries which are for this

purpose designated under the letters M to V.[1] Further let us assume that a line is drawn under the letter L: all those above the line have a comparative advantage; all those below the line have a comparative disadvantage. Suppose a protective tariff is imposed on all articles represented by M to W: what will be its effect? M N O, having little comparative disadvantage, will cease to be imported, and perhaps J K L will cease to be exported; most articles will be unaffected. "The logic of the situation is this: if trade be opened up between two countries which at the start trade only with each other and exchange but two commodities, those commodities would presumably be the two at the extremes of the lists prepared as above (for the list of one country needs only to be reversed to provide that of the other); and if the amount and intensity of demand of country A for the goods it was importing should cause A to require a greater value of import than B, A must offer better terms, and will continue to do so, if necessary, until some other commodity presents as good an opportunity of profit on export by A as did the original commodity. This second commodity will then be exported along with the first. If both together are inadequate to meet the value of the import which A requires from B, they will both be offered on better terms (the price of both falling together so as to keep a constant ratio to cost of production), until some third commodity becomes available for export, and so on until a balance of values is achieved. This principle has

[1] Those down to O, it may be supposed, will prosper if given any assistance whatever. From P to V are industries which need protection for some time. The only burden, therefore, that has to be borne is the protection of these few industries. As time goes on, one after another becomes independent, and though protection may be continued it ceases to be a burden on the community.

some application to a protective policy. Protection is usually invoked to cover commodities which, in the list of goods consumed, would be not far below the line of comparative advantage at the moment. Such protection cuts down on those imports which, of all the goods imported, cost least to make at home, and it also cuts down on the exports which, of all the goods exported, cost most to make at home. The result is to secure those goods as imports which cost a very great deal more to produce at home than to import, and to secure them with exports which cost less per unit of import than before the protection. The *ratio* of gain from international trade will thus tend to increase, the total gain may or may not. This is simply another form of the old doctrine [1] that duties may change the terms of interchange of goods in favor of the levying country, tho it is more applicable, as the old doctrine was not, to protective than to revenue duties." [2]

Still another objection to protection is that while it is undoubtedly a burden on agriculture it confers no real compensatory benefit on the farmer. Whether or not agriculture gains by a home market—and it may be conceded that there is some slight advantage [3] in a home market—agriculture in this country has gained in another way, namely, through the reaction of industrialism on its

[1] *See* F. W. Taussig, "Free Trade, the Tariff, and Reciprocity," pp. 88-89. Professor Taussig points out that protection having raised money incomes, has raised domestic prices on the one hand, and on the other hand depressed the prices of imported goods, and so the people of this country have profited so far as their consumption of imported goods is concerned.

[2] F. D. Graham, "The Theory of International Values Reëxamined," Quarterly Journal of Economics, Cambridge, Harvard University Press, November, 1923, Vol. 38, No. 1, p. 65 and note on pp. 65-66. *See also* Alfred Marshall, "Money Credit and Commerce," London, 1923, Appendix H.

[3] *See* pp. 105-107.

processes. It has repeatedly been pointed out by various writers that agriculture did not benefit to a marked degree by the great inventions of the nineteenth century, and to some extent this is true; agriculture does not present so good a field for power processes as does manufacturing. The processes of agriculture are not continuous; the farmer sows in the spring and reaps in the fall, and in the interim, although he may cultivate and safeguard his crops in various ways, he must necessarily leave much to nature. If there were a continuous process of sowing, it might pay to install rather elaborate machinery or systems for it, and for the other processes of agriculture; but because of its seasonal operations, agriculture has not progressed as much as industry, and is even now, in the twentieth century, carried on in most parts of the world in a very primitive way.

The great spirit of invention diffused throughout the United States as a result of the introduction of modern industrial life has, however, completely changed American agricultural methods, and these methods are now the most efficient in the world. Most of the inventions have been adopted in rather recent years, but one of the earliest and most important inventions was connected with agriculture. If it had not been for Whitney's invention of the cotton gin, the inventions of Hargreaves, Arkwright, Crompton, and others would have been less valuable than they were. The timeliness of Eli Whitney's invention seems almost providential. During the twenty years before it, the spinning frame and the power loom had been invented; here was an invention which made it possible to secure the raw material in great quantities. But though important in connection with agriculture, Whitney's invention concerned itself also with an industrial

pursuit. The first notably successful invention related strictly to agriculture was the McCormick reaper, invented by Cyrus McCormick in 1846. Since then the inventions of agricultural machinery and the improvements in all kinds of agricultural implements have been numerous and important. The last few years have seen the introduction of American tractors, which are now fast taking the place of horses in the work of plowing on the great farms of western United States and Canada, and to some extent in other parts of the world. Power is also being used on farms for many other purposes: the gasoline engine is being used for cutting wood, and for raising bales of cotton, hay, and other heavy articles. These inventions would not have come so soon had it not been for the development of industrial life in this country—an industrial life built up to a great extent by protection.

It has been pointed out that it is fallacious to suggest that high wages in the United States are the result of protection. This is true; nevertheless in an indirect way, labor has probably been benefited by protective tariffs. Labor in the United States is admittedly the best paid in the world. This is true both in regard to money wages and real wages. Labor reaps its rich reward in this country as a result of the great productivity of all its industrial, agricultural, and mining pursuits, and the industrial pursuits are profitable because of the development that has taken place under protection, and agriculture, as has been shown, is profitable not only on account of the fertility of the soil but largely because of the agricultural machinery which the industrial life in this country has developed. The whole matter resolves itself into the annual product of industry (using that word in the very broad sense as including all pursuits). Our annual prod-

uct is greater per capita than that of any other country,[1] and it is more than questionable whether it would have been as great had there not been a protective policy for industries in this country.

The arguments in regard to the benumbing effects of protection, satirical arguments such as the growing of grapes in Scotland under glass, and the other arguments used by free trade writers that were untrue, unsound, or unfair, were not essential or necessary to their case against protection. As stated above, the doctrine of free trade is fundamentally sound, if we accept the assumptions on which it is based. If we consider only the present, look at the matter wholly from the viewpoint of the consumer, take for granted that all men regard only their economic interests, and believe with Adam Smith that the selfishness of the individual acts in such a way that each is "led by an invisible hand" to do that which is best for the community, then it would be impossible for one properly informed not to be an ardent free trader, to believe in natural freedom and the principle of *laissez faire,* and to be an opponent of governmental interference of nearly every kind. But are all these suppositions true? Are the doctrines of classical political economy based upon sound foundations? Are the "natural rights" and "natural freedom," so much in evidence in treatises of political economy from Adam Smith down, real? Is there a harmony of interest? Is the individual, in seeking his own selfish interests, "led by an invisible hand" to do that which is best for the community as a whole? Is or was there ever an economic man? Do all men place their

[1] *See* Thomas T. Read, "The American Secret," Atlantic Monthly, March, 1927, p. 291.

economic interests above everything? Does the individual always even know his own best interests? Are there really any economic laws? Should the question of protection and free trade be looked at solely from the standpoint of the consumer? Should the statesman look only at the present and the immediate future? Was England's supremacy in industry and commerce in the middle of the nineteenth century wholly the result of natural resources and the ability of her inhabitants, or was it partly the result of what one may call the accidents of history? Should nations which were by virtue of a different history less advanced industrially seventy or eighty years ago than England was at that time, have allowed that country to continue to do a disproportionate part of the world's manufacturing, have permitted her to remain indefinitely the "workshop of the world," and never have taken steps to acquire by all means in their power some of the new industrial arts?

To a great extent the free trade doctrine of the classical school was based on suppositions which were never proved. Though some of these suppositions were unquestionably justified, others true under certain circumstances, and others true in part, some were unsound, and some were even fanciful. Classical political economy was far too dogmatic; it proclaimed its formulas as applicable to all places and to all times; and in particular it erred in its unhistorical spirit, especially in the matter of the classical free trade doctrine. It ridiculed and misrepresented mercantilism; it advocated the application of free trade principles to the trade of the world without in the slightest degree taking into consideration the different states of economic development of the nations of the world at the time.

It wholly disregarded the hardships which France had suffered as a result of the Revolution and the Napoleonic wars, the backward state of Germany due to lack of unity, the newness of American economic life, and the weakness of American industries as a result of the lateness of its settlement, its sparse population, its lack of capital, the English colonial policy, and the competition which the early American manufacturers were obliged to meet in a most fertile soil, which attracted a very great part of the capital and labor of this new country. It ignored also the great advantage of England in being the home of the industrial revolution. These historical facts were not "natural," they were not in the nature of things.[1] They were the fortuitous results of a long series of events, and no *laissez-faire* system which would have allowed this artificial state of affairs to continue indefinitely was desirable under the circumstances.

The whole edifice of classical political economy, of which the free trade doctrine was an important part, was built on unjustifiable assumptions. "It assumes not only that the economic interest of the individual is in fact identical with that of the community, but that he knows

[1] All through Adam Smith (and in this he is copied by many of his followers) occur the expressions "natural rights" and "natural course." *See* Rae, *op. cit.*, pp. 359-360, 407; *see also* Sir William Ashley, "A Retrospect of Free Trade Doctrine," Economic Journal, London, December, 1924, Vol. 34, pp. 504-513. In fact, during the last hundred and fifty years, inventions, discoveries, and the opening up of new regions by means of railroads have caused great disturbances, and time and again have upset prevailing economic conditions. These changes were all of an artificial nature; they were not "natural," and so in their advocacy of the "natural course of events" and "natural freedom" the classic economists failed to realize that man often alters the "crude laws of nature," and that the suffering that may ensue as a result of artificial economic changes can in turn be mitigated only by artificial means, such as protective tariffs.

his own interest and follows it. But it is perfectly clear that, in the case of adulteration, of jerry-building, and of the hundred and one devices of modern trade by which a man may grow rich at the expense of his neighbours, the first of these assumptions breaks down. Whatever may be the case with his higher moral interests, the economic interest of the individual is certainly not always identical with that of the community. Neither can it be said that he always even knows his economic interest, especially under the complex conditions of modern industry and commerce. That he follows his interest, or what he conceives to be his interest, is no doubt a safer assumption, though even this truth lacks the universality attributed to it in this mechanical conception of human action. The whole theory, indeed, of the identity of individual and common interests is a perfect instance of the reckless abstractness of the old kind of Political Economy. There is a truth underlying it, but it is a truth which the theory overstates." [1] The "system of natural liberty would not lead to perfect economy unless men are, for the sake of argument, supposed to be infallible in judging their interests and singleminded in pursuing them." [2] This error can be traced to Adam Smith, for though more correct than many of his followers,[3] Smith cannot escape all blame. All through his book his complete trust in individual self-interest is apparent. The fact is, as Toynbee says, "the old economists very seldom examined their

[1] Arnold Toynbee, "The Industrial Revolution in England," London, Longmans, Green & Co., 1896, p. 21.

[2] James Bonar, "Philosophy and Political Economy," London, George Allen and Unwin, Ltd., and New York, The Macmillan Co., 1909, p. 178.

[3] Many reservations and exceptions made by Adam Smith were omitted by his followers, *e.g.*, McCulloch, Cobden, and Bright.

premises," [1] and he further truthfully states, "the contrast in the case of Ricardo, between the looseness and unreality of the premises and the closeness and the vigour of the argument, is a curious one." [2] And again, "Ricardo never realised how great were the postulates he was assuming." [3] Schmoller, in speaking of the classical English school, says, "The whole theory of natural political economy rests on an imperfect analysis of mankind, and on a one-sided, optimistic, naturalistic view of the world and society which goes back for its authority to the Epicureans and the Stoics and to the rationalistic philosophy of enlightenment, and which childishly believes in the identity of the social and individual interests, and with an unhistorical outlook, misunderstands the causes of English opulence, considering it the result merely of the English instinct of industry, instead of realizing that it was the result of English institutions. . . . The whole school lacked a broad knowledge of other times and lands, and a historical grasp of the social and economic process of development." [4]

As has been mentioned before, the system that Adam Smith and his successors built up was based to a great extent on the principle of *laissez faire,* which they adopted from the physiocrats. There was to be practically no interference by the state; and this idea was in fact carried so far that some of the critics of the classical school have aptly described the system as "anarchy plus the constable." As an antidote for much harmful and unintelligent med-

[1] Toynbee, *op. cit.,* London, Longmans, Green & Co., 1896, pp. 115-116.
[2] Toynbee, *op. cit.,* London, Longmans, Green & Co., 1896, p. 3.
[3] Toynbee, *op. cit.,* London, Longmans, Green & Co., 1896, p. 6.
[4] Gustav Schmoller, "Grundriss der Allgemeinen Volkswirtschaftslehre," Leipzig, Duncker & Humblot, 1908, Vol. I, p. 93.

dling by governments with industry and commerce, an increase in liberty might have been helpful, and the whole movement was a natural reaction against the numerous and complicated restrictions of the time; but the followers of Smith were too dogmatic, too intolerant. They insisted that literally there was to be no interference at all, despite the perfectly evident evils in many cases of such a policy, —and of course they failed. In England the factory acts were passed by Parliament, and in no country was it possible to carry out drastically this policy of economic liberalism; indeed, because of the constantly increasing size of industrial units, it was soon seen that the trend was really to be in the opposite direction, and legislative body after legislative body throughout the world passed labor laws and factory acts for the safety and protection of those engaged in industry.

In many other ways the *laissez-faire* doctrine failed. "The principle of *laissez faire* breaks down in certain points not recognised by Adam Smith. It fails, for instance, in assuming that it is to the interest of the producer to supply the wants of the consumer in the best possible manner, that it is to the interest of the producer to manufacture honest wares. It is quite true that this is his interest, where the trade is an old-established one and has a reputation to maintain, or where the consumer is intelligent enough to discover whether a commodity is genuine or not. But these conditions exist only to a small extent in modern commerce." [1]

Another great fault in the classical school system was that it ignored the element of time. In many matters, if the present only is to be considered, one policy is wise;

[1] Toynbee, *op. cit.*, London, Longmans, Green & Co., 1896, p. 83.

if the future, another. The desire for immediate results is an evidence of a low state of civilization. Perhaps the fundamental difference between a politician and a statesman may be said to consist in the fact that the former considers the present and the present only; the latter, the present and the future. Adam Smith "forgets that the tailor [1] perfectly properly thinks only of the present, but that a nation must think of the future." [2] "The state must thus always consider more the nation's future and the development of the whole economic life than the temporary market conditions." [3] This failure by the classical economists properly to consider the future is especially evident in their discussions of free trade and protection. "But the argument [for free trade] is less conclusive when the element of time is taken into account; what is true of each moment separately is not necessarily true of any period in which the conditions of production, or the requirements of communities, may possibly change. Each individual is likely to act with reference to his own future, but it may often be wise for the statesman to look far ahead, beyond the existing generation. Owing to the neglect of this element of time, and the allowance which must be made for it, the reasoning as to the advantages of free trade, which is perfectly sound in regard to the distribution of goods already in existence, may become sophistical, if it is put forward as affording a complete demonstration of the benefits of free trade as a regular policy. After all, human society is very complex, and any attempt to deal with its problems off-hand by appealing

[1] This is the tailor referred to in the quotation on pp. 44-45.
[2] Schmoller, *op. cit.*, Leipzig, Duncker & Humblot, Vol. II, p. 607.
[3] Schmoller, *op. cit.*, Leipzig, Duncker & Humblot, Vol. II, p. 643.

to a simple principle raises the suspicion that some important factor may have been left out of account. Where there is such mistaken simplification, the reasoning may seem to have complete certainty, and yet it fails to produce conviction, because it does not profess to deal with the problem in all its aspects. When we concentrate attention on the phenomena of exchange, we are viewing society as a mechanism in which each acts under known laws and is compelled by one particular force—that of self-interest; now society is no doubt, in this sense a mechanism, but it is also an organism, and it is only for very short periods, and in a very limited way, that we can venture to neglect its organic character without running the risk of falling into serious mistakes." [1]

The early economists were so wholly lacking in historical sense and so absorbed in and entranced by their own theories that they had no conception of the past, or any realization that they were living in a world in which the conditions were always, and especially in their day, changing. They wrote of the time in which they lived, and had in mind generally the England of their own day; of progress and a dynamic society they had little conception. Not only is this true, but evidently they desired no change, and seemed to wish to stereotype existing conditions. As with few exceptions they were Englishmen, and as England was at that time the most advanced country, this was perhaps natural; but it is remarkable that most of them did not realize how largely relative to particular stages of progress and to particular places the laws of political economy are. Closely allied to this defect in the reasoning of the classical school was what List called

[1] W. Cunningham, in Encyclopædia Britannica, Vol. XI, p. 89.

"cosmopolitanism." At times they seemed to forget that there were such things as nations and national ambitions. As Schmoller says, neither Adam Smith nor J. S. Mill had a complete grasp of the idea of a nation.[1] In short, we can now clearly see that despite the undoubted greatness of Smith's work and that of the more able of his followers, the whole spirit of the classical school was naïve, and its dogmatism under the circumstances presumptuous and absurd. "It was a childish belief to consider the theories of Quesnay, Turgot, Smith, Ricardo, and John Stuart Mill as more than a preliminary attempt at a systematic science." [2]

Surely it is not possible to have unfailing confidence in a theory which is a part of such an apparently discredited system; but the truth is that, notwithstanding all that has just been said, great progress was made in the understanding of economic facts and tendencies. Many errors of the past were detected, and a really systematic, though incomplete and imperfect analysis of economic phenomena was accomplished. The failure of the classical school was not so pronounced as would appear by the perusal

[1] Schmoller, *op. cit.*, Vol. I, pp. 91, 92.

[2] Schmoller, *op. cit.*, Leipzig, Duncker and Humblot, Vol. I, p. 93. But perhaps it is just as well that they did formulate their theories before a thorough examination of economic facts in history had been made. It is probably fortunate that Adam Smith and Ricardo came before Schmoller. It was also fortunate for science that Tycho Brahe and Kepler had inferior instruments; otherwise they would have been baffled by the extensiveness of their observations. "It sounds paradoxical to say that the attainment of scientific truth has been effected, to a great extent, by the help of scientific errors. . . . Any given generalisation from observation may be true, within the limits of our powers of observation at a given time, and yet turn out to be untrue, when those powers of observation are directly or indirectly enlarged." Thomas H. Huxley, "The Progress of Science," in Collected Essays on Method and Results, New York, D. Appleton and Company, p. 63.

of the various criticisms which its errors and weaknesses have called forth. In particular, though applied with an extraordinary lack of caution by the successors of Adam Smith, their theory of free trade is fundamentally correct. "It certainly supplies a principle in the light of which all proposed trade regulations should be criticized. It gives us a basis for examining and estimating the expense at which any particular piece of trade restriction is carried out; but thus used, the principle does not necessarily condemn the expenditures; the game may be worth the candle or it may not, but at least it is well that we should know how fast the candle is being burnt." [1] With those who use the free trade theory thus, as a hypothetical principle, there should be no quarrel; but most of those who have advocated free trade have not been so reasonable or so wise. They have insisted in a most positive manner that it should be adopted immediately, or almost immediately, by all nations and under all circumstances. It is a notable fact that many of the advocates of the universal and immediate adoption of free trade have been men who have had very little direct contact with practical affairs,[2] but have been generally professors of economics in universities,[3] journalists, or men in political life. In recent years, however, there has been a marked change, and some of those holding chairs in

[1] W. Cunningham, in Encyclopædia Britannica, Vol. XI, p. 89.

[2] Except in England, where at one time the belief in free trade was well-nigh universal.

[3] There was perhaps no country in which political economy was taught in a more extremely dogmatic spirit than the United States. "In no country except possibly France has there been such pure and unadulterated teaching of dogma in the realm of economics as in America." E. J. James, in Preface to "History of Political Economy," by J. K. Ingram, New York, 1888, p. vi.

universities have taken, and are taking, a much broader view in all matters connected with their studies.[1]

[1] Among the best known of the professional economists who have been protectionists are Gustav Schmoller (1838-1917), professor of political economy in the University of Berlin; Sir William (James) Ashley (1860-), emeritus professor of commerce in the University of Birmingham, and for a number of years professor of economic history at Harvard; William Cunningham, Archdeacon of Ely (1849-1919), professor of economics in King's College, London, and lecturer on economic history at Harvard, author of the monumental "Growth of English Industry and Commerce," a standard authority on the industrial history of England; Simon Nelson Patten (1852-1922), professor of political economy in the University of Pennsylvania; and Edmund Janes James (1855-1925), president of the University of Illinois. Edward Stanwood (1841-1923), editor, and author of "American Tariff Controversies in the Nineteenth Century," a well-known work, was also a protectionist. Thomas Nixon Carver (1865-), professor of political economy in Harvard University, in Chapter 32 of his "Principles of National Economy," brings out a number of very strong theoretical arguments for protectionism, but concludes with the statement that inasmuch as legislative bodies are apt to be swayed by poor as well as good arguments, it is impossible to hope for satisfactory protectionist legislation.

Professor Frank W. Taussig (1859-), Henry C. Lee, professor of political economy in Harvard University, from whose works numerous quotations are to be found in this book, states ("Free Trade, the Tariff, and Reciprocity," p. 147) that he would not have the reader infer that he is "an unqualified free trader." Dr. Taussig is generally acknowledged to be at present one of the outstanding authorities on the subject of the tariff, and his contributions to the controversy concerning free trade and protection are perhaps greater than those of any other writer in the last half century. Dr. Taussig's "Tariff History of the United States" is a standard work of great value. He has also written "Principles of Economics," and "Free Trade, the Tariff, and Reciprocity," but perhaps his most valuable book is "Some Aspects of the Tariff Question." In connection with the quotations from Professor Taussig's works it will be well for the reader to bear in mind the caution expressed in the preface in regard to quotations out of their context.

CHAPTER VI

SOME ARGUMENTS FOR PROTECTION

It may with some justification be said that the foundation of protectionism rests on the absolute sovereignty of nations. Internationalists are instinctively and logically free traders, and though not all free traders are internationalists, many of them have been (some perhaps unconsciously); and a few upholders of free trade doctrines have been avowedly cosmopolitan in their views.[1] The reproach of internationalism made against free traders as a whole, especially in this country, is thus not without some justification, though of course it has never been true that free traders as a class are not quite as patriotic as protectionists. While from what is said later it will be seen that American protectionism has probably been beneficial for the world as a whole, and that therefore an internationalist in the United States might logically be a protectionist, it is true that as a class internationalists are naturally free traders, and that to a great extent protectionism does rest on a spirit of absolute national sovereignty; and it is further true that some of the sound arguments in favor of protectionism, those

[1] Thomas Cooper, President of Columbia College, Columbia, S. C., denied even the existence of nationality. *See* Friedrich List, "National System of Political Economy," translated by S. S. Lloyd, London, 1909, p. 99. *See also* Margaret E. Hirst, "Life of Friedrich List," New York, 1909, pp. 215-217. Professor W. G. Sumner of Yale, and Bastiat, also denied the reality of the state. *See* Sir William Ashley, Economic Journal, December, 1924, Vol. 34, pp. 515-516.

referring to defence, apparently can be supported only by nationalists.

Strange to say, American protectionism is quite clearly related, in part at least, to the doctrine of natural freedom, the very philosophic movement that in England was indirectly and partially responsible for free trade. Passion for absolute freedom and independence—not only a freedom from entangling alliances and European politics, the desire for which recent events have shown still strongly exists among Americans, but also for an economic freedom—and an instinct to make their country self-sufficing which was natural to a people who had lived for generations on nearly self-sufficing farms, and who now control the richest part of the richest continent, led logically enough to a commercial policy that it was believed would make the American nation free from foreign pressure, political or economic.[1] To say this, and to demonstrate further, as will be attempted later, that there are several sound reasons for the commercial policy that has obtained to a greater or less extent during the entire history of this country, is not to deny that sordid motives at times have influenced American tariff legislation, or that it has often been the chief beneficiaries of the schedules who have virtually framed them; nor is it denied that some tariff acts have been far from perfect, being the results of conflicting economic and political interests. It is absurd, however, to attempt to make out, as many of the popular writers on this subject have done directly or by implication, that nearly all who advocate protection do so for selfish reasons. This is the attitude of some free traders to which Stanwood so strenuously objected.[2]

[1] *See* William Hill, *op. cit.*, pp. 108-109.
[2] Edward Stanwood, *op. cit.*, Vol. I, pp. 68, 103-104.

It has been pointed out in Chapter IV that many of the arguments advanced in support of protection are not valid; they can be and many times have been easily refuted. It is likewise true that nearly all the premises of the theory of free trade have been, if not successfully attacked, at least weakened; and in some cases so successfully attacked as to be no longer tenable without considerable reservation. But since without legislation there would be free trade, and since it would generally be accepted as axiomatic that the individual should be free to act as he pleases except when some good reason can be advanced to the contrary, it seems that the burden of proof must rest with the advocates of protection.[1] Free trade is a negative, a do-nothing, a *laissez-faire* policy; protection is and must be a positive theory.

What are the valid arguments, political or economic, in support of this much discussed but little understood doctrine of protection? It is of little consequence, though interesting, to note that many of the arguments advanced—and in that they were the means by which legislation was enacted, sometimes successfully advanced —were unsound.[2] A correct conclusion may be reached by an individual or by a nation in spite of untenable and unsound premises, or through both sound and unsound arguments, the unsound ones sometimes carrying, or appearing to carry, greater weight than the sound. It will be remembered [3] that Adam Smith said in discussing the subject of free trade and protection that the English navigation laws, although contrary to his theory of eco-

[1] It might of course conceivably be urged that the allowing of foreign trade was a positive act; but this, though having some historical basis, would be rather far-fetched.

[2] *See* Chapter IV.

[3] *See* p. 45.

nomic freedom, were wise and should be upheld because "defence . . . is of much more importance than opulence."[1] It is perfectly clear that he meant that the navigation laws were in the narrow sense of the words economically unwise, in that they diminished at any one time the wealth of England, or would have diminished it if other nations at the time could have carried any of the commerce which they were prevented by these laws from carrying at a less charge to the people of England than the English shipowners charged and were obliged to charge for this service. But while he contended that the navigation laws were economically unwise, he believed that they were politically sound: he believed that they had made England, probably at considerable cost, the greatest maritime nation in the world.[2] England being an island, a great merchant marine was, at the time we speak of, indispensable to her safety from attack by hostile nations; with a strong navy she was secure from invasion. How unwise it would have been on the part of her statesmen to count the cost of the creation of her great naval supremacy! How futile to argue, as they

[1] "Wealth of Nations," Book IV, Chapter ii.

[2] This is disputed by Laughlin and others. Even if it is true that the navigation laws did not create English maritime supremacy, such fact does not vitiate Adam Smith's statement nor the argument in the text. But it is probably not true; they did create or at the very least help create England's great supremacy on the sea. As Cunningham wisely observes, the best proof that they attained their object of surpassing the Dutch is to be found in the bitter feeling they caused in Holland. *See* Cunningham, "Growth of English Industry and Commerce," 1892 edition, Vol. II, p. 112. In the 1903 edition of his work, Archdeacon Cunningham states that in the second edition he felt justified in following the opinion expressed above, but further consideration caused him to modify his view. Later, on page 213, he concedes that it is possible that the navigation acts did contribute to the establishment of English maritime supremacy. It is very likely that they at first had the desired effect, but that later on, when England had attained supremacy at sea, they were a hindrance rather than a help.

might have done, that the Dutch, who were at that time the chief carriers of the world, could carry English commerce more cheaply than the English shipowners! Had the laws never been enacted, England, theoretically at least, would to be sure have been a richer nation; but she would also have been a richer prize, and an ill-defended one at that; and all modern history might have been changed. What does it avail a nation to be rich if in attaining wealth it concentrates its attention and its effort so completely on the acquisition of riches that it neglects to protect itself against covetous aggression to such an extent that its great wealth is almost sure to endanger its peace and independence? Adam Smith believed also that it might be wise to lay a burden on foreign imports when the articles of domestic industry which competed with those imported were subject to taxation, in order to compensate or offset the effect of this taxation.[1] He believed, too, in protecting vested interests; and, finally, he thought[2] that occasionally it might be wise for a country to impose duties in retaliation for duties imposed by other countries on its exports, though only when by so doing there was a probability that the burdens objected to would in consequence be removed in the near future.

These four exceptions to free trade have been accepted by some of those who have advocated freedom of exchange between countries; but it has not perhaps been usually recognized how wide an application can be made of the first exception. By a perfectly logical extension of this argument a great many, if not nearly all, restrictions on trade for the purpose of protecting home industries would

[1] For this reason it has recently been proposed to tax copper coming from other countries, chiefly Chile, which do not have as high taxes as this country. *See* Boston News Bureau, Nov. 28, 1923.

[2] "Wealth of Nations," Book IV, Chapter ii.

be allowable; for if defence is of more importance than opulence—and who can question it—then all restrictions on trade, which by their action stimulate domestic manufacture of commodities which probably would be needed in time of war, are thereby justified; and since we now know that in modern warfare everything except luxuries [1] is of value, nearly all duties on foreign imports, of a protective character, are proper. These statements of course all rest upon one assumption, namely: that in time of war the obtaining of commodities from other countries will be or may be difficult or impossible; that is, as a result of war, commerce in general will be subject to great dangers. In the period preceding the Great War, this assumption was not conceded, and even ardent protectionists hesitated to insist upon it. While we cannot now say that trade will surely be impossible, we can state that it will be threatened, and that since the development of the submarine and aircraft, it may be wholly or partially destroyed. Once the destruction of international trade in the event of war is admitted to be possible, the self-sufficing state is justified. As a matter of fact the assumption that a serious interference with trade may occur must be accepted as probable in the case of most countries, and as possible in the case of all; but it may be pointed out that if a policy to prevent such interference were drastically carried out, it would cut off most foreign trade except that of luxuries and tropical produce, and would be an unbearable burden for all nations except the United States; and for the United States, by far the most self-sufficing nation, especially as regards goods necessary

[1] On the other hand, of course, duties on luxuries are generally conceded to be unobjectionable, especially if a substantial revenue is thereby obtained; and further, all duties imposed for revenue purposes are outside the whole controversy.

in war time, it would be unwise, precisely because this country is so nearly self-sufficing now that it is hardly necessary to make it more so. It must be noticed, however, that this country has attained and preserved its unique position as a nearly self-sufficing nation by protection; and while it might be unwise to put literally into practice the theory of the "defence" argument for protection, it would be still more unwise not to realize its importance, and not to understand the necessity of having a high enough tariff on nearly all actual essentials as to insure their production in this country.[1] Likewise as regards other nations, it must be admitted that it is the part of wisdom for them to provide, by protective tariffs or other means, that in the case of defensive wars they shall not be dependent for munitions on other nations which at any moment may become enemy nations. Thus, while no nation perhaps need bear the burden of carrying out to its extreme logical limit the defence argument for protection, and thus make itself the "closed state" advocated by Fichte, all countries which have good reason to fear that in case of war's breaking out they are liable to be cut off from imports from other nations should adopt protective tariffs to the extent needed to establish or continue the production of those articles most essential in

[1] Of course, absolute self-sufficiency is impossible, even for the United States. Though this is the greatest motoring country in the world, having seven-eighths of all the automobiles in existence we are nevertheless dependent on other countries for rubber. It probably would be wise to make some provision for a supply of rubber in time of war. This might be done by the government's carrying on a small rubber plantation in Florida, to be enlarged in case of war, or by keeping a large stock of raw rubber on hand for emergency use. We are dependent on other countries also for nitrates, valuable in war time. Chemical progress already has diminished and probably will continue to diminish the importance of nitrates. We lack also an adequate supply of some special metals. *See* p. 214.

war time, unless they are able in some other way, such as by government production, better to provide against such an emergency. Since in most cases it will probably be found that some industries or pursuits essential in war time for the production of the necessities of life or for the production of war material cannot exist without protection, it is apparent that in this exception of Adam Smith's there is to be found justification for a great deal of protective tariff legislation. This argument, that defence is of more importance than opulence, is one of the few that seem valid for the protection of agriculture; for, as will be seen later, most of the other chief arguments for protection cannot be applied to agriculture.

In the case of agriculture, moreover, there is the important reasoning successfully relied upon by the German protectionists in the famous *agrar-industriestaat* versus *industriestaat* controversy in Germany at the end of the last century. Germany, under a system of little or no intervention as regards agriculture, appeared to be rapidly moving toward a position of great industrialization. The contiguity of coal, iron ore, and deep waterways running to the sea made the production of iron and steel particularly advantageous, and a large number of remarkably trained technicians, such as chemists and electricians, facilitated the expansion of other industries. As a result of this industrialization it was apparently becoming less and less advantageous for capital, labor, and business ability in Germany to turn toward agriculture; and consequently the growing industrial population and the declining importance of agriculture were forcing Germany to rely on importation for her foodstuffs and raw materials to a continually increasing degree. German protectionists considered this to be a dangerous situation, not only to Germany's military but to her cultural

development, and their pleas for a well-rounded and more nearly self-sufficing state were soon successful in securing higher protection for Germany. The results of this policy were clearly marked during the war. Cut off from international commerce by an effective sea blockade, Germany was forced to rely on herself for her foodstuffs. A great deal of suffering was the result, but Germany was undoubtedly enabled to hold out very much longer than would have been possible had her agricultural development not been encouraged by protective duties. The French economist, Cournot, makes some convincing observations on this question of protection for purposes of defence, and he takes as his illustration a policy followed by the French government. "That the government is justified in imposing sacrifices on a nation for the protection and encouragement of an industry useful or necessary to the defence of the state . . . cannot be open to question. For example, if deep sea fishing is the means of forming a body of sailors for the navy . . . and if, on the other hand, the fishing industry by itself does not give to shipowners sufficient reward to bring it to that stage of development which will assure a sufficient supply of trained seamen, the state will do well to stimulate by bounty or by other encouragement the development of the fishing industry. It should support the expense as it supports the cost of constructing and equipping its warships, and as it pays its sailors and naval officers, even in times of peace." [1]

But though the validity of the defence argument, particularly since the World War, cannot well be disputed, it must be observed that it would not be wise for all nations to determine their commercial policies in accord with it.

[1] A. A. Cournot, "Principes de la Théorie des Richesses," Paris, 1863, p. 455.

It can apply only to strong, vigorous, and rich nations; and even in the case of these nations it cannot be followed to its extreme logical consequences. A moment's thought will show that it would be folly for most nations to make a serious attempt to become self-sufficing. Nations of limited resources, and all small nations, would only weaken themselves economically by such an attempt; and while defence may be more important than opulence, such opulence as a small nation may have is better than economic disaster. The weaker nations must of necessity rely on the honor of the more powerful, and the jealousies existing between them, even though, as in the case of Belgium, they may have to suffer for a time because of their inability to defend themselves. In truth only the larger nations, with varied resources, can hope to arrive at anything like self-sufficiency: the United States is at present the only nation in the world with sufficient agricultural, extractive, and industrial resources to be in a position successfully to aim at being approximately so. The English Empire might be self-sufficing, but unfortunately its different parts are so widely separated and in many ways so undeveloped that in the Great War England had to rely on the United States for food and manufactures of all kinds.[1] Russia and perhaps some other countries

[1] The different parts of the English Empire are scattered all over the globe. The chief motive that should actuate any country in pursuing a policy leading toward self-sufficiency is to be found not so much in the danger that the supply of commodities furnished by certain nations may be curtailed by their becoming enemies, as in the fact that its commerce will probably be an object of its enemy's attack. That such an attack could be very effective was not realized until the late War. Now we know that submarines and aircraft have made all transportation over water and even over land precarious. The different parts of the English Empire can be of great help to one another as far as men are concerned, but Australia, New Zealand, and South Africa were found in the last War to be too far away to be of great help commercially. Supplies gathered in Australia could not reach England. *See* J. Russell Smith, "The World's Food Resources," New York, 1919, p. 10.

could and eventually may under good government attain satisfactory self-sufficiency,[1] but at present not only are most of them misgoverned or poorly governed, but are peopled by backward populations who know little of the industrial arts and practice old-fashioned agricultural methods.

But while the United States, and with some decided limitations the British Empire, are perhaps the only units that can at present hope for the self-sufficiency of high industrial development, it must be understood that the defence argument should not be considered too limited in its application. Before the war, Germany did consciously aim with astounding success to make herself self-sufficing, and France was perhaps considerably more self-sufficient before the War than she would have been had she made no effort in this direction, enough so at least to save herself from complete disaster in the early months of the conflict; and as already stated, in time to come the defence argument may have some application in the case of other nations of considerable natural resources. And finally it must be understood that many nations can attain a degree of self-sufficiency that may be of immense value in case of sudden attack. It must be carefully noticed too that while by means of the defence argument one is able to prove that it is wise for nations to be as reasonably self-sufficient as they can well afford to be, nevertheless by it one is in no way able to prove what means should be adopted to attain satisfactory self-sufficiency. While concerning itself with protection in one sense of the word, it does not prove the desirability of protection in the sense of a protective tariff, nor does it go to prove that the variety of pursuits necessary in any country which attains

[1] In fact, Russia, though not possessing a high cultural development, has been practically self-sufficing during the last ten years.

even an approximate self-sufficiency is desirable in any way except as an insurance against foreign aggression.

Alexander Hamilton was one of the first to point out that there was another reason why it is desirable for a country to have a great variety of occupations. In his "Report on Manufactures," already referred to,[1] he said:[2] "It is a just observation that minds of the strongest and most active powers for their proper objects fall below mediocrity, and labor without effect if confined to uncongenial pursuits. And it is thence to be inferred that the results of human exertion may be immensely increased by diversifying its objects. When all the different kinds of industry obtain in a community, each individual can find his proper element, and can call into activity the whole vigor of his nature. And the community is benefited by the services of its respective members in the manner in which each can serve it with most effect. If there be anything in a remark often to be met with, namely, that there is in the genius of the people of this country a peculiar aptitude for mechanic improvements, it would operate as a forcible reason for giving opportunities to the exercise of that species of talent by the propagation of manufactures."[3] And further he says, "To cherish and stimulate the activity of the human mind by multiplying the objects of enterprise is not among the least considerable of the expedients by which the

[1] *See* pp. 28-29.

[2] Hamilton's complete report may be found in Taussig, "State Papers and Speeches on the Tariff," Cambridge, 1893. Of this report Professor Taussig says, on page iv of the introduction, "Considering the conditions under which he thus wrote, and the stage which economic theory had reached in his time, the report is a great intellectual feat." Further on, Dr. Taussig states as his opinion that "the report remains the strongest presentation of the case for protection which has been made by any American statesman."

[3] F. W. Taussig, "State Papers and Speeches on the Tariff," p. 21.

wealth of the nation may be promoted. . . . The spirit of enterprise, useful and prolific as it is, must necessarily be contracted or expanded in proportion to the simplicity or variety of the occupations and productions which are to be found in a society. It must be less in a nation of mere cultivators than in a nation of cultivators and merchants, less in a nation of cultivators and merchants than in a nation of cultivators, artificers, and merchants." [1] These are almost unanswerable arguments, and they are reinforced by our knowledge of industrial history. The wealthy nations have not been the purely pastoral or agricultural nations, but those which have possessed a variety of occupations, such as the Egyptians, the Phœnicians, the Flemish, the Dutch, the English, and above all the Americans in the nineteenth century. The industrial history of the United States in the last century seems to furnish an especially good example of the advantages of a great variety of pursuits within one country. The activity of the industrial life in the northeastern section of the country, though supported probably at first by the wealth of the agricultural sections and by the extractive industries of the West, produced such a spirit of enterprise, invention, and discovery as to react most favorably on the agricultural pursuits and mining enterprises of the nation.

Thus we have two valid reasons why strong countries with considerable natural resources should aim to have a variety of enterprises within their borders: first, because though it may be a burden in an economic way it is a burden that should be borne, since by this variety of enterprise the country may attain partial or approximately full self-sufficiency which would be invaluable in case of war, and which might well be the means by which it could pre-

[1] F. W. Taussig, "State Papers and Speeches on the Tariff," pp. 21, 22.

serve its political or economic independence, or both; and secondly, we find that apparently there is a real economic advantage in variety of occupation. All men are not alike, and it must now be evident that the early economists and their present-day followers have failed to grasp clearly this fact, with their "economic man" who was to be engaged in that pursuit for which his country was best adapted, regardless of his own aptitudes and talents. At this time, when so much attention is being devoted to psychological studies, we must realize that the personal element is of extreme importance, and that when a country is large and has varied and important natural resources its government should make, by restrictive laws if necessary, such a state of society as will provide the opportunity for the exercise of all, or nearly all, the different talents of its citizens.[1] Indeed it might well be urged that one is entitled to paraphrase Adam Smith's oft-quoted saying by stating that as contentment is of much more importance than opulence, a country should make such laws as may be necessary to insure that all or most of its citizens may have congenial occupations; for it must be evident that nothing excepting bad government can so deaden national mental activity and dull the ambition of the youth of a country as the realization that only a limited number of different kinds of careers are possible, especially if those careers do not well fit the predominant national characteristics. It may be possible that it was just this lack of broad opportunity that before the War—and since the

[1] Many modern social psychologists believe that everyone can find work that he can do especially well, and that the man who fails in a certain pursuit would probably be successful in some pursuit for which he was especially adapted. *See* Hugo Münsterberg, "Psychology and Industrial Efficiency," Boston, 1913, pp. 35-36. If this is true, it is obvious that the more pursuits there are in a country the greater chance each man has of success.

War also, though for other and obvious reasons—was responsible for that atmosphere of stagnation, depression, and apparent lack of enterprise which in some of the countries[1] of Europe was in such noticeable contrast to the extremely high (perhaps too high) tension of activity in the United States. For the fact must not be lost sight of that many of the most active and successful citizens of the United States were born in countries in which this lack of enterprise was quite apparent; and it is evident that the contrast in the United States was stimulating. It is of course true that many of these countries endeavored by various governmental policies, principally tariff legislation, to make possible the carrying on of numerous kinds of industries; Germany was markedly successful in this policy. The success of France and Belgium was less pronounced, and the other countries failed or partly failed either because they were too backward in education, self-government, and civilization generally, as in the case of Russia, or because they did not possess the necessary resources or capital.

Thus these two arguments for protection, the defence argument and the argument for increasing the variety of pursuits within a country, seem to be sound. Though the defence argument was conceded by Adam Smith and many

[1] England and Germany were nations which had a great variety of pursuits. The activity of economic life in Germany and England was of course very great, though considerably less intense than in the United States, where, because of its great resources and splendid opportunities, there has been during the last hundred years an economic activity hitherto unknown in any part of the world. This activity, of course, was due to these resources, but, as Professor Taussig points out in regard to the steel industry (*see* p. 198), these resources might not have been developed as early as they were developed had not protective tariff legislation hastened and intensified the industrial activity of this country; and hence also the people who were engaged in the industries utilizing these resources would not have acquired so soon or in so decided a manner the skill and aptitudes and knowledge which they now possess.

of his followers, it has been questioned by some; for during the nineteenth century the validity of very few arguments on either side of the controversy was conceded by the other. For instance, as has been stated,[1] Laughlin, in his edition of Mill, questions whether the English navigation acts were successful,[2] and Mill himself questioned the necessity of providing against the danger of a food supply's being cut off, stating, "It is ridiculous to found a general system of policy on so improbable a danger as that of being at war with all the nations of the world at once; or to suppose that, even if inferior at sea, a whole country could be blockaded like a town."[3] Did not Mill forget that France, in the Napoleonic wars, had fought nearly all the other nations? Perhaps he cannot be blamed for not realizing that submarines and airplanes were destined in the future to make it possible to "blockade a nation like a town." During the Great War England was very nearly and Germany quite effectually blockaded, and it is certainly the part of wisdom for each nation to provide as far as it can against this possibility in the future. The protagonists of free trade have attempted to refute the second argument also, stating that even under a policy of free exchange there would be a considerable variety of occupations within a country. They have not, of course, claimed that there would be as many as under protection, for it is the contention of free traders that protection fosters the growth of many industries which, because they are economically unprofitable, should not exist within a given country. The limited number of occupations, and the primitiveness of those

[1] *See* footnote, p. 92.

[2] J. S. Mill, "Principles of Political Economy," edited by J. Laurence Laughlin, New York, 1894, pp. 611-612.

[3] J. S. Mill, *op cit.*, Book V, Chapter x, paragraph 1.

that did exist in this country until after the Napoleonic wars seem, however, together with the limited number of industries in some countries, to sustain the argument as it has been stated.[1]

It may be noted, as in the case of Adam Smith's defence argument, that Alexander Hamilton's argument for variety of occupations does not prove that protection is the best means of obtaining the results which he has demonstrated are desirable; in fact, Hamilton himself leaned strongly toward premiums for encouraging industry. Both these arguments simply prove that if protection establishes a merchant marine or industries, it should not be objected to merely because it is for a time or even permanently economically unprofitable. But as a matter of fact protectionism would now be conceded by most statesmen, economists, and business men as the most practical means of stimulating and supporting industrial enterprises not strong enough to compete with older or more fortunately established industries of other countries.[2]

Another argument for protection deserves some attention, because it has some appearance of validity, and because it is of historical importance in having been the chief argument, or one of the chief arguments, in early American tariff discussions; and also because it is associated with the name of a great American statesman, Henry Clay. This is the "home market" argument—the

[1] This argument in no way sustains protection to agriculture and mining. These are so completely governed by natural conditions, and require so little development of skill to prosecute them successfully that they need no encouragement under ordinary circumstances. Generally speaking, the only arguments for legislation stimulating agriculture are those used in the *agrar-industriestaat* versus *industriestaat* controversy, already mentioned on pp. 96-97, and the defence argument. Agriculture should also be protected against dumping.

[2] Or are not able to compete with the more profitable pursuits in their own countries. *See* Chap. IV.

home market for the farmer for surplus produce. Its strength lies in the fact that the foreign market may be cut off at any moment by adverse foreign legislation or by war; and that the farmer, if he has a home market, may raise and dispose of products of the soil other than grains, such as fresh vegetables, which cannot be shipped to a distant market. But the farmer has to pay for this market, and it is not unreasonable that he should: the best and most successful business men have been among the greatest advertisers, and have thus paid for their market; but they have not been successful if they have been obliged indefinitely to pay more for their advertising than they have made out of their market; and thus the home market argument can be valid only on the condition that at some time in the not too distant future the farmers and others who pay the cost of protection will be reimbursed for their outlay by their ability to obtain the protected articles at about what they could have procured them for if there had been no impediment to the free importation of foreign products. The farmers can always afford to pay a trifle more for the articles of domestic make as insurance against the hazards of doing business with customers in a foreign market that may at any time be cut off by war or hostile legislation. The validity of this argument is more apparent than real, and the free traders have pointed out certain facts which appear to render the foreign markets in some respects more stable than the home market. They point out that every country is subject to economic disturbances, such as financial or commercial crises, war, drought, or floods; at any rate, they argue, a market spread over a number of countries is likely to be more stable than a market limited to one. There may be some advantage in a home market, but this is counterbalanced by certain disadvantages; and consequently if this is the

only argument for protection, we had better do without protection. It will be seen later that apart from the reasons usually urged in the home market argument there may be others not so evident that may possibly make it wise in the end for all those not in protected industries to help carry the burden of the initial cost of protection.

Another and unquestionably a valid argument for protection in this country is that of "vested interests." This is to the effect that manufactures having been established as a result of government legislation—and in the United States especially as a result of the Napoleonic wars, the legislation of that time, the tariff acts following, and the Civil War legislation—it is the duty of the government not to withdraw its support too suddenly or to such an extent as to bring disaster to those who, relying on the policy of the government, have invested their capital in certain industries. This is sound reasoning; for apart from all consideration of the fact that the government has in a sense an obligation to protect the creatures of its own acts, it is perfectly clear that any drastic and sudden withdrawal of government support might and almost certainly would result in a serious financial disturbance which would affect not only those in protected industries, including the thousands of industrial wage-earners depending on them, but also business of every kind within the country.

This argument of vested interests has always had great weight—much more than has been apparent in the controversies concerning tariff legislation—and because of it no such thing as absolute free trade has in recent times been seriously proposed in the United States by any responsible statesman. It is valid apparently only if protection has already been established; but it may be, and

has been, put in such a form as to give it a wider application and considerably more importance in the protectionist repertory than such a limitation would permit. Interests may be "vested" in an industry in a manner pertinent to this discussion even though no protection has formerly been applied to this industry. Pierson, the Dutch economist, one of the strongest exponents of free trade, recognizes a strong case for protection under the following circumstances. Suppose a "great development of agriculture in distant countries owing to increased transport facilities in those countries, and a consequent sudden fall in the prices of agricultural produce." [1] Under such circumstances protection might well be applied to break the fall of prices and render the movement of labor and capital to other enterprises easier. That this is by no means an impossible case has been sufficiently demonstrated by experience within recent times. The growth of American transcontinental lines in the seventies opened a new agricultural empire to the growing of wheat. English farmers immediately felt the consequences in a rapid fall in the price of grain, and from 1873 to 1900 England experienced a long agricultural depression so serious that British industry was severely affected. It is more than possible that a judicious application of protection could have rendered the depression less severe and its consequences less extensive.[2] It must be recognized that all branches of

[1] N. G. Pierson, "Principles of Economics," London, The Macmillan Co., 1912, Vol. II, p. 196.

[2] It probably would have been beneficial had some protection been afforded to the Welsh tin plate industry shortly after 1890. As will be shown later (pp. 201-202), as a result of the high duties the United States was able to obtain a great part of this industry during the closing years of the last century. Similarly it was wise to protect after the close of the Great War the many industries which had sprung up in the United States in the years during the conflict, such as the manufacture of toys and of various kinds of chemicals.

business enterprise, manufacturing, agriculture, mining, or transportation, are subject to sudden and violent dislocations: war, famine, pestilence, chance, invention, and discovery are factors fraught with industrial consequences. In the long run the economic order will adjust itself to changes, no matter how serious; and the return to labor, capital, and business ability will tend to be no higher or lower in one line of industry than in another; but the "long run" is a period which may see much disorder and much distress: "In the long run," says Mr. Keynes, "we are all dead." [1] No government can afford to sit by and look on at what amounts to industrial disaster without attempting to mitigate that disaster and alleviate distress, and the protective tariff offers possibilities of accomplishing this. Whenever "vested interests" are subject to sudden and violent disturbances, and protection seems to be able to make this disturbance less sudden or less violent, there is a presumption in favor of the application of such protection.

There is another argument for protection which concerns itself with the possibility and desirability of using the tariff for protection against foreign dumping. This first played a serious part in tariff agitation in the English movement for tariff reform, which reached its height in 1903 and 1904. It is true that American and German manufacturers in the first half of the nineteenth century had frequently protested against the dumping of manufactured goods from England, and that these protests had some effect on tariff legislation in both these countries; but neither the practice nor the argument at that time attained the importance they were to reach in later years. The origin of the practice as a part of industrial policy

[1] J. M. Keynes, "Monetary Reform," New York, 1924, p. 88.

had to wait until the nineties of the last century, when the huge industrial combinations which have distinguished both German and American business organization had their first extensive development. These organizations occasionally followed a consistent dumping policy for the purpose of conquering a foreign market; but more frequently dumping took the form of a sporadic sale in foreign markets of goods unsalable at profitable prices on the home market. The latter form has marked nearly every depression in recent years.

If we define dumping as it is usually defined, namely the sale of commodities abroad at lower prices than rule for the same commodity in the home market, it becomes evident that it can in general be practiced only by organizations having something like a monopoly position in the home market. A small business engaged in competition with a large number of other businesses of similar size is not likely to attempt to improve the home market for the benefit of its rivals by selling a part of its produce at lower prices abroad; but a large organization controlling a considerable share of the home market may find such a procedure a good business policy. A second condition determining the nature and extent of dumping is the existence of a protective tariff in the dumping country. This is not absolutely essential, and considerable dumping has occurred from free trade countries; but a tariff barrier is for obvious reasons of great assistance; for if goods are sold abroad at prices lower than those ruling at home the dumping country runs the risk of having the same goods reimported, and with inadequate tariff protection this has occasionally happened. In the nineties both these conditions existed in propitious combination in Germany and the United States, and the amount of

dumping which resulted was considerable. England as the greatest of free trade markets received a large share of the dumped products, and her manufacturers complained vigorously against the practice. It was because of these complaints that dumping received so much attention in the tariff reform movement which swept England from 1900 to 1905; dumping and preferential treatment of imports from the colonies were the high points of Joseph Chamberlain's campaign, and they were points which missed by a very slight margin reversing the policy which sixty years' experience had made traditional in England.

There is little doubt that dumping justifies protection if it can be applied in such a way as to meet the difficulty, and economists have shown some degree of unanimity on this subject. It is not easy for a country to protect itself against this practice, but a number of governments have in recent years adopted anti-dumping legislation, most of which has been effective. Canada was the first to attempt legislation of this sort; the Canadian tariff act of 1907 contained excess duties on dumped goods, and the anti-dumping provisions have been considerably modified and strengthened since then. Canada was followed by Australia, New Zealand, and South Africa in rapid succession. The United States has incorporated a number of anti-dumping measures into its tariff laws, and finally in 1922 adopted complete anti-dumping provisions modeled rather closely after those of Canada. England herself adopted duties of this sort as a part of the Safeguarding of Industries Act of 1921.

Another form of dumping which caused a considerable amount of apprehension in the period immediately following the war has been the object of tariff legislation in a number of countries. The rapid fall in the rate of

exchange, particularly in the countries of central Europe, for some time gave a marked impetus to exports from these countries. This incentive to export, from Germany in particular, filled the manufacturers of other countries with alarm; and a large number of tariffs against this so-called "exchange dumping" were enacted. But the fears that were entertained in regard to this kind of dumping have not been realized. Undoubtedly this is due to the barriers erected by the anti-dumping and general tariff legislation of the United States and various other countries. Moreover, as it was the result of rather peculiar conditions which are not likely to continue indefinitely, and very possibly may never recur, it is no longer a matter of such concern as it was a few years ago.

Reference should be made to an instance of what seemed for a time like a permanent case of dumping. Permanent dumping is advantageous to the country which receives the dumped commodities: such a country is receiving a gift through the mistaken policy of another country. England, as the great free trade nation of the world, for a long time received sugar, the production of which had been encouraged and partly paid for by bounties of certain Continental countries. Here apparently was a gift, but in 1902 as a result of a conference brought about at the earnest solicitation of Great Britain acting in the interests of her sugar refining industries and the producers of cane sugar in her colonies, the Brussels Sugar Convention was signed, the bounty system abolished and this piece of economic folly ended.

It has already been pointed out [1] that under certain conditions protection might raise wages by diverting pro-

[1] *See* footnote, p. 56.

duction to those enterprises using a large amount of labor per unit of capital and land. The presumption in this case was, however, that the gain to labor would be a relative gain only, made at the expense of interest, rent, and profits, and not contributory to an increase in the total income of the nation. But there is a possibility that protection may lead to an increase of wages without a decrease in the amounts going to the landlord, the capitalist, and the business man, or the amount which makes up the total income of the nation; this possibility depends on whether or not protection will encourage the importation of capital. Free traders have always argued that protection would have precisely the opposite effect, and have summoned to their aid the principles of economic theory; but certain facts seem to speak louder than the theory. The emigration of capital from the United States to Canada is a familiar phenomenon. The protective barrier which Canada has thrown up has made it desirable for many American enterprises to establish branches in Canada to take advantage not only of the Canadian market, but also of the British, entrance to which is possible on easier terms to Canadian than to American goods of certain kinds. In this particular instance the export of capital from the United States to Canada seems to have been stimulated by the Canadian tariff. Free traders have often denied such a possibility upon the basis of the following reasoning. Adopting a *laissez-faire* point of view, they have argued that if men are economically free they will divert their capital, their land, and their ability to the most profitable channels. If on the other hand the tariff encourages certain industries at the expense of others, as it will do if it is effective, an arrangement of labor, land, and capital which is different from the most

profitable one will have to be accepted. The resulting diminution in productivity will show itself in a decline in the productivity of labor, capital, and land, and this decline will be expressed in a fall in the payment per unit of these factors of production, *i.e.*, a fall in interest, wages, and rent. But if the interest rate falls, and the foregoing reasoning leads to this conclusion, the import of capital, far from being encouraged, will be discouraged.

This reasoning is sound enough; under these conditions the rate of interest in the area applying protection will be somewhat lower than under free trade; but the conclusion that the import of capital will be discouraged does not follow. Let us suppose an area such as Canada in which the interest rate is high and the importation of capital is large. Now let us suppose that this area imposes tariff duties on certain steel products and on harvesting machinery. American manufacturers who had formerly been supplying the Canadian market from plants in the United States would be induced to establish Canadian branches [1] in order to escape the duties; and this involves an import of capital into Canada which would not have taken place without protection. Will other imports of capital be discouraged? Not necessarily; for although the protective tariff will have the effect of making capital in Canada temporarily less productive than formerly, this reduction in productivity and consequently in the interest rate will be spread over so large an area and over such a variety of enterprises that the reduction may be inappreciable.

[1] A few of the American manufacturing corporations which have established Canadian branches are as follows: General Electric Company, Ford Motor Company, General Motors Company, U. S. Steel Corporation, American Locomotive Company, Westinghouse Electric and Manufacturing Company, Westinghouse Air Brake Company, and International Harvester Company.

Thus by concentrating attention on a few commodities, a protective tariff may encourage the importation not only of capital but of other productive agents.[1]

There are two minor arguments for protection, already referred to, that deserve passing mention. It will be remembered that Adam Smith thought it was proper to compensate manufacturers by import duties for any internal taxes they had to pay, and that he conceded that a tariff might be a weapon of retaliation.[2] No one has disputed the correctness of the first contention; but as to the second, it is of course simply a question of whether or not it is necessary, and whether or not it can safely and successfully be used.

To sum up, in all these arguments the immediate economic disadvantage is conceded as possible, and especially is this true in the first argument. As for the others, they could scarcely be admitted unless we assume that it was

[1] Moreover, it may be well to call attention to the fact that economists have tried, as Professor Carver has pointed out, to give the word "productive" a double meaning. They have given it the meanings of both "productive" and "profitable." As he further points out, an industry may be very profitable to an individual, but not very productive to society as a whole; and the converse is also true: an industry may be extremely productive as far as society is concerned, but not very profitable to the individual. It has been by confusing these two meanings that free trade advocates have been misled. *See* T. N. Carver, "Principles of National Economy," Boston, 1921, pp. 460-467. Furthermore, even if there were a temporary loss, even if the interest rate in Canada or in some other country should drop for a year or two, this is of little moment if, as may happen and as has happened, it is finally very much higher than it originally was, because of both the productivity and profitableness of the newly-acquired industries.

[2] "To judge whether such retaliations are likely to produce such an effect, does not, perhaps, belong so much to the science of a legislator, whose deliberations ought to be governed by general principles which are always the same, as to the skill of that insidious and crafty animal, vulgarly called a statesman or politican, whose councils are directed by the momentary fluctuation of affairs." Adam Smith, "Wealth of Nations," Book IV, Chapter ii.

hoped that the economic disadvantage might in time pass away or become insignificant. Many of them are to a very great extent political or sociological. We now come to another argument for protection which, because it deals more decidedly with the economic elements of the case than with the political, is probably the most interesting of all, as without much question it is the most important.

CHAPTER VII

THE INFANT INDUSTRIES ARGUMENT

The famous "infant industries" argument [1] is based upon the almost self-evident fact that industry takes time to develop into maturity, and that competition on even terms with older foreign manufactures is not possible immediately upon the introduction of a business enterprise. Protection in this situation is in the nature of an investment which is expected to yield future returns. Cournot has brought out this fact by an analogy as appropriate as the favorite analogies of the early free trade writers in regard to the advantages to be secured by cobblers and bakers in exchanging products. "No one denies the utility of temporary encouragements. The most economic father of a family willingly pays the cost of his son's education or of his apprenticeship; not only may he set aside a part of his income, but if necessary, a part of his capital. Is there nothing analogous to this in the experience of a nation? When a new industry has but recently been introduced (even one which has in prospect the best of futures) is it not necessary that at first it be given shelter in order that it may acclimatize itself and permit all those employed in connection with it to work out their apprenticeship?" [2] He illustrates the point with

[1] Sometimes called the "young industries" argument. The same thought is conveyed in the expression "educational tariffs." List's "productive powers" is also the same thing in another form.

[2] A. A. Cournot, *op. cit.*, p. 456.

the instance of the watchmaking industry introduced into France by Voltaire and built up step by step against the competition of the watchmakers of Geneva. But this argument needs no further support either from *a priori* reasoning or from historical examples, since it has been universally admitted to be valid. Its acceptance is given the air of finality in the following sentences of Pigou, one of the best known of the present generation of British economists. "Of the formal validity of List's argument [the infant industries argument] there is no longer any dispute among economists. Granted that protection involves an immediate detriment to the national dividend, nobody supposes that it *must,* therefore, involve a detriment on the whole. On the contrary, the argument would now be stripped of the special reference to infant industries which List had chiefly in view, and be given a wider application. In its modern form, it would be stated somewhat in this wise. By stimulating the development or hindering the atrophy of productive powers, protection may lead to an ultimate gain more than commensurate with the immediate loss. In short, a nation, like an individual, may be well advised, at certain stages in its history, to dispense with present wealth for the sake either of education or of insurance." [1]

The three most famous names connected with the development of the infant industries argument are, probably, Hamilton, List, and J. S. Mill. Hamilton was perhaps the first to enunciate it clearly. His arguments not only had an important effect on later writers on the subject, but as we have seen were in part responsible for the early protectionist movement in the United States.

[1] A. C. Pigou, "Protective and Preferential Import Duties," London, The Macmillan Co., 1906, pp. 13-14.

Mill, a thorough-going free trader, makes the following concessions in favor of infant industries and protection. "The only case in which, on mere principles of political economy,[1] protecting duties can be defensible, is when they are imposed temporarily (especially in a young and rising nation) in hopes of naturalizing a foreign industry, in itself perfectly suitable to the circumstances of the country. The superiority of one country over another in a branch of production, often arises only from having begun it sooner. There may be no inherent advantage on one part, or disadvantage on the other, but only a present superiority of acquired skill and experience. A country which has this skill and experience yet to acquire, may in other respects be better adapted to the production than those which were earlier in the field; and besides, it is a just remark of Mr. Rae,[2] that nothing has a greater tendency to promote improvements in any branch of production, than its trial under a new set of conditions. But it cannot be expected that individuals should, at their own risk, or rather to their certain loss, introduce a new manufacture, and bear the burden of carrying it on, until the producers have been educated up to the level of those with whom the processes are traditional. A protecting duty, continued for a reasonable time, will sometimes be the least inconvenient mode in which the nation can tax itself for the support of such an experiment. But the protection should be confined to cases in which there is good ground of assurance that the industry which it fosters will after a time be able to dispense with it; nor should the domestic producers ever be allowed to expect

[1] By implication he here admits the possibility of defending protective tariffs on political grounds.

[2] *See* pp. 65-66.

that it will be continued to them beyond the time necessary for a fair trial of what they are capable of accomplishing." [1] This statement of Mill's has been the occasion of much controversy. Some free traders have taken the view that by his concession Mill gave the whole free trade case away. Mill himself tried to weaken his statement by qualifying it, in an answer to a letter from Horace White in 1866, in which he stated that he did not consider the manufacturing parts of the United States as any longer new countries. He said, "New England and Pennsylvania . . . have carried on manufactures on a large scale, and with the benefit of high protecting duties, for at least two generations; their operatives *have had full time to acquire the manufacturing skill in which those of England had preceded them;* there has been ample experience to prove that the alleged inability of their manufactures to compete in the American market with those of Great Britain does not arise merely from the more recent date of their establishment, but from the fact that American labor and capital can, in the present circumstances of America, be employed with greater return, and greater advantage to the national wealth, in the production of other articles. I have never for a moment recommended or countenanced any protecting industry except for the purpose of enabling the protected branch of industry, in a very moderate time, to become independent of protection. *That moderate time in the*

[1] J. S. Mill, *op. cit.,* Book V, Chapter x, paragraph 1. Adam Smith touched on the infant industries argument, but evidently had little faith in it. He said, "By means of such regulations, indeed, a particular manufacture may sometimes be acquired sooner than it could have been otherwise, and after a certain time may be made at home as cheap or cheaper than in a foreign country." But after this statement he went on in an endeavor to prove that it was unprofitable for the country. "Wealth of Nations," Book IV, Chapter ii.

United States has been exceeded, and if the cotton and iron of America still need protection against those of the other hemisphere, it is in my eyes a complete proof that they ought not to have it, and that the longer it is continued the greater the injustice and the waste of national resources will be." [1]

Friedrich List, in his "National System of Political Economy," [2] published in 1841, a few years before Mill's work, followed Hamilton's lead, and developed his theory of "productive powers," which, of course, is nothing more or less than the infant industries argument in another form. List, who attacked rabidly and often unfairly the classical school, the "school" as he called it, was nevertheless convinced of the soundness of the fundamental principles underlying the theory of the free trade doctrine, and he believed that free trade ought, at some time in the future, to be universally adopted. But he felt that though free trade should eventually prevail, at the time he wrote —and for some years to come—the United States, Germany, and other countries in the same state of development should have protection for their manufacturing industries. He believed that only England was then fitted for free trade. In other words, though he pays no attention to the so-called industrial revolution,[3] and probably

[1] J. S. Mill, *op. cit.,* edited by J. Laurence Laughlin, New York, 1894, pp. 614-615. The italics are not in the original.

[2] Translation in English by G. A. Matile, Philadelphia, 1856, and by S. S. Lloyd, London, 1885, second edition in 1909.

[3] He considered that England's industrial supremacy was due chiefly to the fostering care of the English government. *See* Lloyd's translation of List, *op cit.,* p. 32ff, p. 310. He also stated that England owed her success in industry to her conquests in the sciences and arts, further attributing her great progress in industry, commerce, and wealth to her geographical position, her constitutional form of government, her institutions in general, the love of liberty of her people, their character, and even to good fortune. *Ibid.,* pp. 39, 40.

underestimated its effects, he realized that England had by 1840 attained such a commanding position in manufacturing that the other nations, such as the United States and Germany, must foster their industries in order to overcome her great lead. He asserted that those nations which had passed the hunting and pastoral stages go through successively two further stages: an agricultural stage, an agricultural stage united with some manufacturing, and arrive at a perfectly developed stage in which they have agriculture, with manufacturing, and commerce on a large scale.[1] In the first three stages the nation should adopt free trade; in the fourth stage, protection; and in the fifth or final stage, free trade again. As has been said, he considered England alone ready in 1840 for free trade; France he believed nearly ready.[2] He insisted that the power to produce wealth was of far greater value than wealth itself; and that the productive powers of a nation should be developed, and are best developed, by protection.[3]

Most eminent economists have to some extent supported the infant industries argument, and have admitted that it justifies the imposition for a time of protective import duties. They have conceded that the argument has some force, but have contended that the industries of such countries as the United States, France, Belgium, and Germany (of course they were writing before the War) could no longer be classed as infants. They agreed with Mill that the "moderate time" (for protecting industries for the purpose of enabling them to become independent of protection) in these countries had been exceeded. Many will remember the cartoons in the daily and weekly papers

[1] *Ibid.*, 1909 edition, pp. 144-145.
[2] *Ibid.*, 1909 edition, p. 93.
[3] *Ibid.*, p. 108.

of free trade proclivities in which enormously fat and overgrown infants were represented as crying for more milk, the bottle containing it being marked "High Protection." In short, the answer to the infant industries argument has been that it is logical and convincing, but no longer applicable to the industries of such countries as the United States, where manufacturing has gone on for a hundred years or more. Is this true? Had the full or reasonable time that Mill laid down as proper passed when in 1866 he wrote the letter given above on pages 120-121? Has it passed yet? Might not Mill have been right in his general idea, yet wrong in its application? How long does it take to establish a new industry—not the exact period, of course—but does it take a long time or a short time? Are two generations enough? Were American industries then, in 1866 or later, gaining; or were they, as some thought, benumbed and weakened by protection? Have these infants reached or are they reaching maturity or even adolescence? Is there any possibility that the term "infant" may have had an unfortunate connotation, may have suggested a period roughly corresponding to the infancy of human beings? Mill evidently thought two generations more than enough. Is a century too long? Can one cite instances where these infants have grown strong in any country? Enough has been said to show that the "pauper labor," "high wages," or "cost of production" arguments—all different names for the same thing—are not tenable. The defence argument, the argument for variety of occupations, and the vested interests argument are logically sound, and so also are the minor arguments, the arguments for compensation for internal taxes, for a weapon of retaliation and for protection against dumping. Is the infant industries argument logical, and has experience proved it sound?

Have industries been introduced into such countries as the United States and Germany by means of protection? Has the United States, for instance, obtained valuable arts from abroad by means of protective tariffs in the past? And if so, are they now fairly rooted, well established, and able to survive without protection, or will they soon be able to dispense with it? Honest and informed persons will admit that protection at first must be costly, since the immediate object of the imposition of custom duties [1] is to raise the price of certain articles. Assuming that up to the present protection has cost the United States a certain unascertainable amount, has it been worth while? If new arts have been acquired by protection, are they worth the cost; or, as Archdeacon Cunningham puts it, is the game worth the candle? These are the really important questions concerning the wisdom or folly of protective tariffs. Can they be answered even in a general way? In order to attempt such an answer, it will be necessary to examine the nature of industrial development, to note some of the difficulties that were encountered by American manufacturers in the nineteenth century, to study the methods of dissemination of the arts in the past, to note the means adopted for retaining in secrecy any new methods in the industrial arts, to examine briefly the causes and the course of the industrial revolution which had such an important bearing on England's manufacturing supremacy and her later desire for universal free trade, and in particular to note the length of time it took England to acquire her first great industry—the woolen manufacture—and then to see whether instances can be cited as to the success of protectionism in recent years in such countries as the United States and Germany.

[1] But *see* pp. 71-75.

CHAPTER VIII

THE NATURE OF INDUSTRIAL DEVELOPMENT

As has been shown in Chapter V and elsewhere, the great weaknesses of the position of the classical school, not only on the question of free trade but on other matters, lay in the over-simplification inherent in stating things too abstractly. The classical writers assumed that labor, capital, and business ability moved freely from one business enterprise or industry to another—all that was necessary was the incentive of a slight advantage in profit to cause industry to spring up where none had been before. In their opinion not only was this true of these agents of production; it was true, also, of such intangible factors as business knowledge, craftsmanship, and the arts of industry; these things too were supposed to be mobile and easily transferable, and in fact, it was assumed, consciously or unconsciously, that they would spontaneously arise wherever and whenever needed. If a certain group of commodities were not manufactured in a given area, it was considered to be demonstrated that this area had no advantage in the production of them. Moreover the whole school under-emphasized the importance of time and of historical continuity; and for the question of protection versus free trade this under-emphasis is fatal. The building up of an industry in a new area is a long, slow process, and also the growth of one industry has important and often unforeseen effects upon other industries. In general it can be said that the costs of production in all branches of manufacture tend to be cut down

with the introduction and growth of any one of the branches. Not only is a new group of laborers trained and habituated to industrial employment, but a further opportunity for the advantages to be derived from the division of labor is extended to those already employed. No study of protection is useful which does not take account of the manner in which industry grows, changes, and develops. It is to a consideration of the nature of this industrial development that we now proceed.

The introduction and growth of an industry is an historical phenomenon which depends upon and is linked with a large number of variable circumstances. Proximity of raw materials, existence of transportation facilities, presence of business enterprise, existence of a supply of skilled and unskilled labor, an effective demand for the goods—all these things and many others have a direct and important bearing—and climatic, topographical, social, economic, and political conditions encourage or discourage the establishment and maintenance of the industry. Moreover the conditions which determine and govern the course of enterprise do not form a series of fixed quantities, but one of exceedingly variable quantities. The passage of time and the changes in the factors which accompany it are working either for or against, and there is seldom or never an industry which finds its conditions of production unchanged from one decade to another.

Though the conditions influencing production are alterable, the alteration takes time, and the difficulties to be surmounted by one nation in catching up with another which is its industrial superior are very great. It took several centuries for England to catch up with the Flemish woolen industry, despite the great help her woolen manufacturers received from legislation and from many

extraordinary events working very much to her advantage.[1] During the last War it was demonstrated again and again how difficult this catching-up process is. After a certain length of time, England reached a point in aviation comparable with Germany's at the beginning of the War; but Germany in the meantime had made very pronounced progress. Professor Taussig says, in connection with the attempt to transplant industries from one country to another, "It is not so easy as might be supposed to transplant an improved system of production and all that hangs thereby. However automatic a machine may be, intelligence and knack in operating it are always called for; though less, perhaps, among the ordinary hands than among the machine tenders and foremen. It is a common experience that the same machinery will produce in the country of its invention and manufacture better results than when transplanted." [2] It is interesting to note that Professor Taussig, in these sentences just quoted, is speaking of the difficulty of other nations' catching up in the future with the United States in certain industries in which this country now leads the world. Already, in 1915, the date of publication of Dr. Taussig's book, the positions in many respects had been reversed, and it was a question of how soon, if ever, England and other European countries would catch up with the United States. In many industries the United States had before the War caught up with and passed all other nations. It seemed to the free trade writers of the nineteenth century that these supposedly unenterprising manufacturers were taking an extraordinarily long time in overtaking

[1] *See* pp. 188-193.

[2] F. W. Taussig, "Some Aspects of the Tariff Question," Cambridge, Harvard University Press, p. 45.

their foreign competitors. As a matter of fact, it was a very short time for such an accomplishment. Anyone reading some of our free trade literature of the period from 1860 to 1900 will realize that many of these writers had concluded that it had already taken so long as to prove that American manufacturers could never lead in many important lines,[1] and that this country was and would be for a long time chiefly agricultural. Yet even before the War, American manufacturers as a whole were leading the world. Since the War their advanced position is much more evident. This catching up and surpassing of the great nations of Europe in manufacturing industry was accomplished only by the overcoming of many difficulties.

To one interested in the complex nature of industrial development, perhaps the most fertile field of all for study is the industrial revolution in England. During the Middle Ages and afterwards, England by no means led the countries of Europe in craftsmanship and the arts of manufacture. In the Flemish, German, and Italian cities were to be found groups of artisans whose equals were not to be discovered outside the Continent. What progress England made in manufacture was largely secured by the immigration of foreign craftsmen. England took about four hundred years to master the woolen industry, and nearly as long to learn many of her other important industries; yet during the eighteenth century England astonished the world by so altering the methods of manufacture that the change accomplished has been called a revolution. Was this movement the result of conditions peculiar to England? Were English business

[1] Mill's letter to Horace White, for instance, takes this point of view. *See* pp. 120-121.

men adventurous and enterprising beyond all others? Did England have natural advantages in manufacture which made it desirable and inevitable that England should be the "workshop of the world," drawing foodstuffs and raw materials from industrially less advanced countries? Or did England attain her position through a series of adventitious historical events accompanied by a well-formulated foreign policy? In the answers to these questions is to be found material of such pertinence to the question at issue as to justify a digression on the industrial revolution.

The great mechanical changes of this time do not stand alone; they had been preceded by a number of important inventions; and since 1790 the series of inventions and discoveries, and the useful adaptation of previously known devices, has continued unabated, some of our most useful improvements, such as the railroad, telegraph, telephone, and automobile, coming long after this period of thirty years which we are now about to consider. The period from 1760 to 1790 was, however, an important and unique one in itself, for it was then that the machine or factory age began. During these epoch-making decades, the steam engine was first made to do important productive work for mankind; before that it had been an interesting laboratory appliance and toy, and later it had been used in a few instances to do pumping. Perhaps we cannot say that it was the steam engine that started the factory system, for there were factories before its advent; but the factory age, which began about 1775, was largely the result of the great textile inventions of that time and of Watt's steam engine. Though, as has already been pointed out, one can trace back the beginning of the machine age to at least 1700, and though one may well

urge that this great era of material improvements and of discovery and invention still continues, it is perfectly evident that this period from 1760 to 1790, or at most from 1750 to 1820, was especially important, since during this time the first demonstration of the practicability of manufacturing by power occurred. Why did it occur then? Why did the world exist for thousands of years without machinery, and then suddenly, as it were, in the short space of less than a century, apply machinery and power first to the textile industries, then to other branches of manufacture, then to transportation, and then later adapt for useful purposes the heretofore scarcely known power of electricity, and the wonderful but long-hidden secrets of chemistry? This is an important question, and one that has not been sufficiently studied or discussed, especially in connection with the tariff question.

The industrial revolution, or the change to modern power machine industry, could not have taken place except under certain circumstances. In the first place, as power machinery is considerably more costly than the former simple instruments of production, the society in which machine manufacture could arise must be, at least in some measure, capitalistic. In the second place, there must be for the class of goods to be manufactured a market of considerable size, for it would of course be necessary to earn enough on the investment of capital in machinery to make it worth while. Some adequate and fairly extensive system of transportation is a third requisite. A fourth element is inventive genius; and that presupposes a fifth and a sixth element, namely, a fairly advanced hand industry, and some knowledge of natural science. All these were present in the ancient world, though perhaps barely in sufficient strength. There was some capital, but no

proper or well-developed banking system, and the capital was, according to modern ideas, limited and of course not very fluid. There was a market and manufacturing for a market, but it was neither large nor rich. There was a transportation system, and there were ships and roads; but the ships were small, and navigation was still an unperfected art. There was a fairly well-developed hand industry, and at one time some knowledge, limited and imperfect, of physics. As to inventive genius, there was probably a greater amount than we are in the habit of imagining.

But the ancient world, though possessing all these elements as the necessary prerequisites to the application of power machinery to industry only in the most limited way, was wholly lacking in two other factors. These were both of a psychological nature. The man of ancient times, whether Roman or Greek, was too tolerant. The Greeks and Romans, for instance, recognized the gods of other people. To their minds, wholly lacking in scientific training, any explanation that was clever sufficed. They had no conception of absolute truth. It may be remembered that it was a Roman who cynically asked, "What is truth?" It was the Christian religion that inculcated in people's minds the concept of absolute truth, the concept that there was only one definite truth concerning any one fact or idea. Until this had become thoroughly familiar to the human mind, scientific progress was not possible.[1] The other psychological element wholly lacking among the

[1] "But for science something more is wanted than a general sense of the order in things. It needs but a sentence to point out how the habit of definite exact thought was implanted in the European mind by the long dominance of scholastic logic and scholastic divinity." Alfred N. Whitehead, "Science and the Modern World," New York, The Macmillan Co., 1925, p. 17. *See also* Emil du Bois-Reymond, "Reden," "Der Ursprung der neueren Naturwissenschaft.," Leipzig, 1886, Vol. I, p. 262.

ancients was an appreciation, as we should put it, of the dignity of labor. To them labor was degrading; of this view there is ample evidence, and of course there was then more justification for it than now. Most labor was performed by slaves, and it must be remembered that as there was no motive power except water, and practically no machinery, labor was in many cases very arduous. But even where it was not exhausting it was despised, because, as Xenophon said, industry caused men to lead sedentary lives; and he speaks of the vulgar crafts involving complete absence of leisure.[1] Christianity changed all this, first by asserting the dignity of labor, and secondly by gradually changing slavery into serfdom, and finally in Christian countries into freedom for all men. Had it not been for the old scorn and detestation of the industrial arts, and for the lack of the scientific spirit, it might have been possible for the ancient world to have made some progress in invention and in the improvement of manufacturing processes. Archimedes, who was probably the greatest mechanician of the ancient world, considered it beneath him to put any of his knowledge to practical use. That he could have done a great deal is shown by what he did at the siege of Syracuse. He little appreciated that if he had turned his genius to the despised arts of manufacturing it would have greatly enhanced his fame. It should be remembered also that Hero almost invented the steam engine, but like all the people of his time he lacked an appreciation of what such an invention could accomplish.

Thus, though in many ways suited for a development similar to the so-called industrial revolution, ancient civ-

[1] J. L. and B. Hammond, "Rise of Modern Industry," New York, 1926, pp. 10-11.

ilization, owing to the existence within it of certain methods of thought, ideas, customs, and institutions, and in particular owing to the deadening effect of slavery, could not take the first steps necessary to accomplish the great change from hand to machine manufacture.

CHAPTER IX

THE COURSE OF INDUSTRIAL DEVELOPMENT

What has been said in the last chapter explains why the industrial revolution did not occur in the ancient world. The Middle Ages were far different from the period before the Christian era. The industrial revolution, however, did not take place until long after the beginning of modern times. In what ways were the Middle Ages unsuited to progress in the mechanical arts? What were the conditions in mediæval times which made substantial progress impossible? Reference has elsewhere been made to Mill's approval of Rae's statement that nothing is so conducive to improvement in industrial arts as the transplanting of them from one country to another. When an art is introduced into an environment different from that in which it arose, those prosecuting it are obliged to make changes in method. Not only must they in some cases use substitutes,[1] since the materials furnished them are different in some degree from those originally used, but they must also face different circumstances. "Whatever, therefore, breaks the wonted order of events, and exposes the necessity, or the possibility, of connecting them by some other means, strongly stimulates invention. The slumbering faculties rouse themselves to meet the unexpected exigence, and the possibility of giving a new

[1] The use of substitutes often promotes improvement in an art. *See* Josef Grunzel, "Economic Protectionism," Oxford, 1916, p. 340, for a list of substitutes. Other interesting instances are artificial humidifiers, rayon, bakelite, pyralin, celluloid, and cement. *See also* p. 152.

and more perfect order to elements not yet fixed animates to a boldness of enterprise, which were rashness, had they assumed their determined places. Hence, as has often been remarked, periods of great changes in kingdoms or governments, are the seasons when genius breaks forth in brightest lustre. The beneficial effects of what are termed revolutions are, perhaps, chiefly to be traced, to their thus wakening the torpid powers; the troubling of the waters they bring about undoes the palsy of the mind." [1]

The static condition of society was perhaps the most characteristic feature of the Middle Ages. In such a society no revolutionary progress was probable, though of course it would be incorrect to suppose that there was no development at all. The monasteries helped to preserve many of the arts; later came the gild system, which had a marked tendency to stereotype conditions. The great inventions had to await a growth in capitalism, improved transportation, a banking system, and a greater knowledge of the laws of nature. It is probable that there would have been no Arkwrights, Cartwrights, Watts, or Cromptons had it not been for the Newtons, Boyles, and Von Guerickes that preceded them, just as there would have been no Morses, Bells, or Edisons had there not been before them Franklins, Voltas, and Faradays.

But it is certainly true that genius was abroad in the England of the eighteenth century, whatever may be the cause that awakened it. The group of inventive geniuses and their startling discoveries have caught and captivated the minds of all who have written on this period. For a while the accepted theory was that to this series of bril-

[1] John Rae, "Sociological Theory of Capital," edited by Charles W. Mixter, New York, 1905, pp. 148-149.

liant inventors, who had taken advantage of the wise laws of the best-governed country then in existence, the world was indebted for the great change and the increase of wealth that followed it. This is the theory advanced by Walpole in the interesting first chapter of his history; and if it is correct these men have not received due recognition. "The gratitude of a nation," says Walpole, "properly bestowed titles and pensions, lands and houses, stars and honors, on the conqueror of Napoleon. Custom and precedent only allowed inferior rewards to the inventor of the safety lamp. Yet Hargreaves and Arkwright, Crompton and Cartwright, Watt and Davy, did more for the cause of mankind than even Wellington. Their lives had more influence on their country's future than the career of the great general. His victories secured his country peace for rather more than a generation. Their inventions gave Great Britain a commercial supremacy, which neither war nor foreign competition has yet destroyed." [1] Even if the theory is not tenable that we owe the great industrial revolution and all it signifies to these few great men, Hargreaves, Crompton, Cartwright, Watt and others were unquestionably great geniuses, and did carry through a momentous work that entitles them to a greater fame than they have yet received, for they were undoubtedly an important cause of the industrial revolution. It is not to the point to say that others would have done what they did sooner or later; the point is that they were the first to grasp certain ideas and to persevere in developing and realizing them. But we do not mean to assert, and indeed it is difficult to believe, that these changes in industry, and the similar

[1] Spencer Walpole, "History of England," London, Longmans, Green & Co., 1890, Vol. I, p. 66.

changes in transportation and communication which reacted so favorably in expediting the adoption of the new industrial technique, were due almost wholly to a few master inventors. One proof that this is not so is that some of the inventions had been made earlier; the steam engine had, of course, been conceived long before Watt made it practical, and the power loom had been invented by DeGenne and Vaucasson; evidently, therefore, something more than invention was required.

That the industrial revolution began in England in the eighteenth century was due without doubt to a combination of events. It was not specifically due to England's cultural state, for this differed little from that of other European countries, and was certainly not on the whole superior. It was doubtless due in part to the comparatively good government which England then enjoyed;[1] but it was due more decidedly, perhaps, to the long freedom from invasion and the consequent security which was the blessing of none but Englishmen at the time. It was due also to the wise governmental policy of England, and to the fostering of English industry and trade by all the methods which were later to be condemned by Adam Smith and his followers. It was due decidedly to the large market which had been won by English victories on land and sea, and it was due in large measure to the general success of English policies at home and abroad. It was due to the spirit of the times in England, and to increased scientific knowledge. It was due unquestionably in part to the errors of England's enemies, to her own good fortune, and to many fortuitous events.

[1] It was government by the rich and well-to-do classes, which aimed at the security of property, and was to a great extent harsh on the poor and weak. It was not humane, just, or democratic, for at that time there was no truly republican government.

Directly, of course, it was due to the brilliant series of inventions which were once looked upon by some as occurring at that time wholly, or nearly so, by chance, but which were in reality growths, as all things human are. But it was probably chiefly due to the growth of capital, to the increase in wealth; and the inventions occurred and were adopted and applied in England because it was there that the increase in capital was most marked,[1] and because, as a result of disturbed conditions on the Continent, they could not very well have taken place there at that time. How did this increase in wealth and growth of capital occur?

Though there may have been some gradual increase in wealth all through the Middle Ages as a result of the slowly improving conditions of European society, the general increase in wealth in Europe did not begin in marked measure until the fourteenth century. The Crusades no doubt indirectly helped to bring it about by stimulating trade and bringing to the knowledge of the Europeans some of the arts of the East. The Black Death, though it was a great disaster from which recovery was slowly accomplished in the course of the next hundred years, was not without its beneficial effects. As a result of the first epidemic in 1349 and to a less extent of the subsequent ones, a large part of the population of Europe, as indeed also of Asia, perished. Some writers place the deaths in Europe as high as one-half the inhabitants. There was much suffering, and the dislocation of society was necessarily pronounced. But through its action the amount of money per capita was doubled. There was a scarcity of labor, and the poor became prosperous. Moreover, enclosures, of which mention will be made later,

[1] That is, the rate of increase was greatest in England.

increased and produced important economic results. In short, the static condition was disturbed, and the change was in some ways beneficial. But the effects of the Black Death were dwarfed by those of the events which followed the discovery of America, when the wealth of a new continent was thrown open to Europe. Those who are not inclined to admit the importance of this event may point to the fact that little, if anything, of value came from America in the first century after its discovery, the sixteenth, and that the little that did come toward the end of the century was in the least useful form of wealth, the precious metals. This is partly true: the first century of America is little more than one of discovery; and it is further true that at first the precious metals were the chief objects of commerce between the two continents. But these were not without effect on the economic life of Europe, and that effect was beneficial: they raised the price level.

Rising prices nearly always stimulate trade; perhaps we may say always, if they are not too violent. They had this effect during this period; and that it was one of the causes of the increased commercial and industrial activity there can be little doubt. During the seventeenth century general trade between Europe and America began to assume, for the time, considerable proportions. It was, of course, chiefly between Spain and her colonies. This was the time of the greatness of the Spanish main, and the era of piracy on a grand and traditionally romantic scale. It was Spain's enemies—France, England, and Holland—that profited by this piracy; but it was finally England that reaped the richest reward. This was the age of Drake and of Spanish galleons full of treasure captured by English privateers and out-and-out pirates,

often English. If we ask why the English fared so well, the answer is that they and the Dutch (who at first surpassed them, but whom they were later to surpass) were the best sailors, and we find the reason for England's superiority on the sea in the fact that she was an island. By her maritime power England acquired wealth, but she acquired something more. Her people owed their increasing resourcefulness, in part at least, we may be sure, to their experience with the sea. Sailors, even more than frontiersmen, have to be resourceful; they have no one to rely upon but themselves. Furthermore, a sailing ship is a wonderful example of the ingenuity of man, and at that period, the seventeenth and eighteenth centuries, it was perhaps the most ingenious of all human contrivances. Other events which of course affected other countries even more than they did England, were the fall of Constantinople, the Renaissance, and the recent invention of the printing press. All these things contributed to change; there was a new world in the making, and England was the focal point of all the new forces. She was in the end the one nation able in fullest measure to take advantage of all the new sources of strength. But the most important consideration of all was her growing wealth, due chiefly to her wool and her woolen manufactures, but also to her great sea power and commerce. Some of the methods practiced were, to say the least, unethical; indeed, they were substantially legalized piracy;[1] but of course most of them were consistent with legitimate trade.

[1] We may apologetically argue that the moral standards of the time were lower than at present. When we remember the War of a few years ago and what happened then, we realize that they did not need to be much lower to permit piracy. But it may be truly said in extenuation that there were no other nations that would not have done what England did, and in fact all the other maritime nations did exactly as England, though they were not quite so successful.

Thus we find at the beginning of the eighteenth century a very different England from the England of the early part of the sixteenth century. Then she was a rural country, and her inhabitants were an agricultural and pastoral people. Though not poor, she certainly was not rich, and was perhaps suffering to some slight extent from the Wars of the Roses. In 1700, however, her circumstances had changed. She was then rather rapidly becoming wealthier. She had fairly prosperous colonies, and an overseas trade large for those days. She was becoming a manufacturing country. Her chief industry, the manufacture of woolens, was important, and she was exporting a great deal of woolen cloth. Moreover England was less involved than any other important country in European politics; and this meant that she was freer to follow her own interests. Her people, rather backward before, were now awakening to their opportunities. Germany and Italy were split up into numerous petty states in constant rivalry with one another, nearly all paternally governed, and unprogressive.[1] Spain had become rich too easily, and as a result of this and the loss, through unwise laws, of her industrial population, she was fast losing ground; for at this time the legislation in Spain was wholly in the interest of the consumer. She is perhaps the one country that has decidedly made the experiment of thus fashioning her legislation, for England's free trade policy was adopted not at the behest of the consumers, but rather as the result of the agitation of the manufacturers and economists. Excepting Holland and France, all the other nations were either backward or extremely small, and France alone was in a position similar to that of England, to which in manufacturing she was in most ways superior. Industrially, England

[1] German industry had been ruined by the Thirty Years' War.

was the newer nation; but this was an advantage, just as it was later to be to the advantage of Germany and the United States to adopt the new machinery technique after England; for, as in all such cases, there were fewer old customs, habits, and institutions to be supplanted, and, as Rae had shown, the establishment of an industry in a new environment promotes progress.[1] Moreover England was stronger at sea, and her colonies were prospering better and progressing more rapidly than those of France.

It is evident, however, after all is said, that the industrial revolution might well have begun in France.[2] Yet the fact is that it did not do so, and the further fact that it did start in England is due in part, perhaps, to some rather peculiar circumstances of a decidedly fortuitous nature. During the seventeenth and early eighteenth centuries England became what she has since been so often called, "a nation of shopkeepers"—one ought rather to say a nation of manufacturers and shopkeepers. Many of these shopkeepers and manufacturers were men of moderate means, but in the aggregate they had considerable wealth. Within recent years Weber, Troeltsch, and Levy in Germany, and Sir William Ashley in England, have again pointed out what was already well known, that a very large proportion of this new industrial middle class were Calvinists, and they have further brought out a fact not previously appreciated, that their religion had important economic consequences.

The psychology of the Puritan was in some ways unique. In his religion he was much in earnest; but in this, of

[1] Rae, *op. cit.*, pp. 414-415.

[2] In Holland also the conditions were favorable for a revolution in industry.

course, he differed not at all from many other Christians of his own and other times. Again, he differed not from other earnest Christians in his belief in the dignity of labor, and that it was right to work and sinful to be idle. But as Richard Baxter, one of the most eminent of Puritan divines, pointed out in 1763, if one works hard one is likely to become rich, and riches are dangerous to one's spiritual welfare.[1] Many others in the past had realized this difficulty, and in Catholic countries it was in some measure solved by the monastic life; for what wealth was accumulated belonged to the order, and therefore one could be industrious without becoming wealthy. Moreover, in Catholic and in many Protestant communities a great deal of wealth was expended on art, often in connection with the Church,[2] and upon display and pleasure. Now the typical Puritan cared very little, if at all, for art;[3] he was opposed to all sports and similar institutions in England, and wherever the Puritans held sway there was little left of "Merry England." This concentration on industrial, mercantile, and commercial activities, this close attention to business and dislike of art and academic learning, this austerity of life with few pleasures and few motives for expenditure, and every incentive to save, could not but have a very decided effect on the economic life of England, and increase considerably the capital

[1] Hermann Levy, "Economic Liberalism," London, 1912, Chapter V; *see also* W. J. Ashley, "The Economic Organization of England," London, 9th edition, 1925, pp. 158-159, also appendix, p. 203.

[2] "Religious display was an important motive in medieval commerce, for monarchs and nobles vied with each other in lavish gifts to favorite monasteries and churches." J. L. and B. Hammond, "The Rise of Modern Industry," New York, Harcourt, Brace and Company, Inc., 1926, p. 20, footnote 3.

[3] "The cultivation of fine arts was discouraged." J. Rowntree, quoted by Levy, *op. cit.*, p. 67.

funds of the nation. Lancashire, always spoken of as the most Catholic county in England, was also, at least in its southeastern corner, strange as it may seem, one of the strongholds of Nonconformity. Lancashire, and in particular this southeastern corner of the county, was the theatre in which within a comparatively short period were enacted the first scenes in the dramatic change of the technique of industry from the methods of hand labor to the age of power-driven machinery. It is not too much to say that to the Puritan character, with all its virtues and faults, England owed in some measure the remarkable advances she made at this time in wealth and in the technique of industry. Thus the capital for the new industry came from the rapidly increasing accumulations which resulted, first, from the increased incomes, and second, from the increased tendency to save.

The laboring population for the growing manufactures was furnished by villeins who had been dispossessed of their property, or by those who were descendants of villeins who in previous centuries had been dispossessed. Sheep-raising was extremely profitable in England, and to obtain grazing lands the lords appropriated, or as it was called "enclosed," the commons and other land, thus dispossessing the small agriculturists of their holdings, and breaking down the economic life of the old English village. The peasant, or the small farmer as we should call him, was in one way not so highly considered in England as on the Continent: there he was wanted for military purposes; but England, being an island, did not need a large military force, and so the small agriculturist was deprived of his land and rights when it was to the advantage of his lord to dispossess him. This procedure provided a large landless population in England, which became the labor-

ing population in the factories that sprang up at the end of the eighteenth century. In France, to take one Continental nation, the situation was different; there the peasant was more highly regarded, because France, having potential enemies on nearly all her borders, needed soldiers for her armies. When, as a result of the Revolution at the close of the eighteenth century, the French peasant acquired control of the government, he was able to obtain full possession of his land; and thus ever since then France has been a country of small landowners, and in neither the eighteenth nor the nineteenth centuries was there such a large floating labor supply as in England at that time. A supply of capital ready for investment, a supply of labor eager for employment—these two factors combined admirably with the succession of inventions which marked this period in English history.

As has been pointed out, though one should not hold too strictly to the once popular view that the industrial revolution was the result of a few remarkable inventions, one must not fall into the opposite error of assuming that they were of little importance. That previous attempts had been made at similar inventions should not cause one to think that the later successes were any the less significant. The previous inventors had failed because general conditions were not propitious; that is, they had failed because they had not come at the right time. It was not only that there was insufficient capital, but also that the market was too small, and transportation, upon which the market so fully depends, too difficult. But the previous attempts had failed principally because of two other things: first, because people in general could not visualize their possible success, and second, because they needed other inventions to make

them entirely practical. It was natural that as soon as the steam engine was perfected there should be attempts to make steam carriages, and a large number were invented and constructed. They were not utter failures—they ran, but they were not great successes. They were noisy and unpopular, and the "horseless carriage" had to wait many years for other inventions, notably until the time when there should be a smaller and more powerful engine. It also had to await another invention, the pneumatic tire; for two of the chief causes of the failure of the first horseless carriages were their unsatisfactory traction and the almost unbearable amount of jolting to which the passengers were subjected in the early models, which, of course, had the usual iron tires. The sequence of inventions is therefore very important. When a certain number of inventions and discoveries have been made, it is almost certain that further inventions and discoveries will follow.[1] It is probable that the reason cotton manufacturing was the pioneer machine industry is that the sequence of invention and discovery was just right—in fact so nearly perfect as to seem almost providential.

Necessity is truly the mother of invention. It is also true, as in the case of DeGenne and the early motor vehicle builders, that there are often geniuses who are ahead of their time, and hence failures. Society has to reach a certain cultural stage before a given invention or discovery can be adopted. Much had to be done before the machine age was possible; for one thing slavery, which had predominated in industry in ancient times and to some extent later, had to be abolished, and its abolition is one of the great boons that Christianity bestowed upon mankind. The purely self-sufficing unit of the manor had

[1] William F. Ogburn, "Social Change," New York, 1923, pp. 82-83.

to be changed, a work assisted probably in great measure by the Black Death. There had to be an increase of capital. The hoards accumulated as a result of taxation may have been of some importance; but more important, of course, was the discovery of America and the consequent increase in commerce. Besides all this, there had to be increased knowledge and skill in mechanical devices. Man has always had keen faculties for invention, and our knowledge, fragmentary as it may be, of the prehistoric and ancient world shows that people in the earliest times and even in the most primitive societies were often extremely ingenious, no doubt compelled to be so by necessity.

Toward the close of the Middle Ages there came three inventions which must have greatly increased the knowledge and skill of all European communities: the printing press, firearms, and clocks. Inasmuch as the early printing press was extremely simple, and the early cannons and guns required very little mechanism, we must look more particularly to the development of clocks and watches as a cause of the increased skill in mechanical contrivances at that time. Though it may seem remarkable that such a delicate and accurate piece of mechanism as the clock should have been one of the earliest of inventions, a little consideration will show that it implied no previous invention, but was the logical development from the hour-glass and the clepsydra, or water clock; and further, that no great market or capital was needed for its manufacture. At the start clocks were municipal possessions; one clock sufficed for each community. The necessity for an accurate measurement of time must of course have been very great; and the well-known adage is one of the truest of all our sayings. It is probable

that as clocks, and later watches, increased in number and intricacy, they were a potent influence in increasing mechanical skill and knowledge.

Before the eighteenth century there had been important textile inventions. In 1530 Jurgens invented the spinning-wheel; in 1589 William Lee invented the stocking-frame, a truly remarkable invention considering the unmechanical period in which he lived and the intricate motions of the machine. His invention was unpopular because in that day, as even in this, "make-work" fallacies were quite common. The Italians invented a series of machines in connection with the spinning and winding of silk. These were the machines discovered and stolen by the Lombe brothers.[1] In Holland the swivel loom for ribbons and tapes was invented, and in 1725 introduced into England, where it was known as the "Dutch loom."

In 1733 John Kay invented the so-called "flying shuttle," and thereby greatly increased the amount of work a weaver could do in a given time. Kay's invention is the exception that proves the rule; there was no great necessity for an improvement in the hand loom, for weaving could be done so much faster than spinning that it required about four spinners to supply one weaver with yarn; and as Kay's invention doubled the work that a weaver could perform in a given time, his new loom made matters considerably worse.[2] But at this point the adage did prove true: there was distinct and immediate necessity for an improvement in spinning. Thus Kay's inven-

[1] *See* p. 176.

[2] Of course, once it was found permanently necessary for eight spinners to supply one weaver, there would be no great difficulty in the matter. The point is that these changes were sudden and disturbing, and hence produced the tension referred to in the text.

tion was beneficial in that by increasing the difficulty to formidable proportions it almost compelled an improvement in the processes of spinning yarn.

As has been stated, the great industry of England up to the nineteenth century was the manufacture of woolens. All these inventions we are now considering are concerned with the cotton industry, which was located chiefly in the southeastern corner of Lancashire. It has been pointed out that this community was influenced in its industrial habits by Puritanism. Though Puritanism may in some measure account for the industry, thrift, and close application to money-making that the people of this community showed, it does not explain the fact that their energies were directed away from agriculture and toward manufacture. It has been repeatedly pointed out that where there is a great abundance of fertile land, people will not engage in manufacturing,[1] or if they do, they will engage in some branch of manufacture connected with the fertility of the soil. Thus in England the fertile meadows of Gloucester and Somerset being good for sheep-raising, we are not surprised that the people in the neighboring towns were engaged in the manufacture of woolens. Southeastern Lancashire, however, was not suited to successful agriculture; but with its many small streams, which later on were of great use as water-power,[2] it was exceptionally well suited for manufacturing. The extensive use of cotton cloth in the western world is a fairly recent development. Cottons, though not widely used, were not wholly unknown in Europe before the eighteenth century. It is probable, as has been suggested by Dr. Cunningham,

[1] *See* p. 22.

[2] John A. Hobson, "The Evolution of Modern Capitalism," 2nd edition, London, 1916, p. 49.

that the cotton industry was brought to England by the immigration of persons skilled in it who were driven out of Flanders in 1561;[1] but however that may be, by the middle of the seventeenth century there was an established cotton industry in Lancashire.

During the seventeenth century the East India Company began to bring calicos into England, and people began to use them a great deal, causing much agitation in the silk and woolen trades. The woolen manufacture naturally was, and had been for many years, the particular industry which was favored by Parliament, because Parliament was composed of the landed proprietors who, owning the pastures and the flocks of England, were only too willing to assist the industry which made a market for their wool. Hence in 1700 an act was passed by which the importation of printed or dyed calicos was forbidden. It is not necessary here to go into the intricate history of the various acts in connection with the woolen and cotton manufacture of the time. The intention of Parliament was to protect the woolen manufacture; but in so doing, accidental protection was given to the new cotton manufacturing also, and great progress in the latter resulted.[2] Still greater progress occurred when by a series of inventions truly remarkable not only in themselves, but also in their providential sequence, a veritable revolution was effected which spread from the cotton manufacture to other industries.

As a result of the tension produced by the invention of

[1] George W. Daniels, "The Early English Cotton Industry," Manchester, 1920, p. 12.

[2] Edward Baines, in his "History of the Cotton Manufacture," London, 1835, p. 321, and those who followed him were therefore wholly wrong in asserting that the cotton industry had developed without protection. *See* A. P. Usher, "Industrial History of England," Boston, 1920, pp. 285-286.

Kay's flying shuttle, machines for spinning cotton were invented and more or less perfected. The most important of the cotton machinery inventors were Paul, Wyatt, Arkwright, Hargreaves, and Crompton. Crompton's mule was the culminating invention. As a result of his machine the very best yarns could be obtained, exceeding in fineness and strength the famous yarns spun in India. Arkwright was the successful business man of this group. He was not a great inventor, but was able skillfully to combine the ideas of others.[1] All this machinery was operated first by hand power, then by horses, and then by water. Weaving was still done by hand; it was not supposed possible to make a loom operate by power, because the motions were assumed to be too intermittent to be reproduced by any mechanical contrivance. Edmund Cartwright, a Kentish clergyman, happening in 1774 to hear of this problem, decided that he would endeavor to solve it. His first machine was very crude, but his second improved model was fairly successful.

Attention has several times been called to the important influence which the insular position of England has had upon its history. We shall see that it was largely because England was an island that it became the great wool-producing country, and later the great wool manufacturing country. We have already shown that England's maritime supremacy was in large measure due to the fact that she was an island in the Atlantic Ocean. As English shipping developed the demand for timber

[1] He was very ably assisted by Jedediah Strutt, who became one of the first spinning machine manufacturers, and amassed a fortune. In passing, it is interesting to note that Samuel Slater worked in Strutt's factory, and there acquired the knowledge of spinning machinery which was so valuable to him in the United States. *See* George S. White, "Memoir of Samuel Slater," Philadelphia, 1836, pp. 33-35.

became very great, and as the forests of England were fast disappearing, laws were passed to protect them. At this time wood was used exclusively for the smelting of iron; but when it could no longer be obtained a resort was made to coal. About one hundred years before this Dudley had proved that iron could be smelted with coal, and now after some experimenting it was found to be more satisfactory than wood, thus proving Rae's statement that a change to different conditions often is beneficial to an art. As the coal mines began to be used it was found that they filled with water, and hence had to be pumped; and this led to the development of the steam engine, which was first used for that purpose. Later on Watt and Boulton developed rotary power, and with the steam engine and all the new cotton machinery invented, we have the beginning of the modern factory. But where was the raw material to come from? It was practically impossible to get a large quantity of cotton, such as this growing industry required, because of the slowness of separating the cotton seeds from the cotton wool, a process then performed by hand. The invention in 1790 of the cotton gin by Eli Whitney, a Yankee schoolmaster who happened at that time to be in Georgia, is another example of the extraordinary timeliness of all the great inventions connected with the rise of the English cotton industry and the factory system in general. This account of the early cotton inventions has been introduced at this point because, as has been truly said by Schulze-Gaevernitz, "The English cotton industry is not only the oldest, but is in many respects the industry which manifests most markedly the peculiarities of modern trade methods, both in their economic and in their social relations." [1]

[1] Gerhardt von Schulze-Gaevernitz, "Der Grossbetrieb," Leipzig, Duncker & Humblot, 1892, p. 85.

After some hesitation, all these inventions were applied to the woolen industry, and then it became evident that machinery, driven by water power or the steam engine, could be made to perform most of the labor, not only as well as had been done by hand, but better, much more speedily, and at infinitely less expense than formerly. Great misery among those thereby thrown out of work naturally followed the introduction of machinery, but the wealth of England was so enormously increased by the change that she was able chiefly through it to conquer Napoleon. At the end of the Napoleonic wars it was generally understood that England was the wealthiest country in the world, and that she owed her wealth in a very considerable degree to the great revolution in industry which had so recently taken place within her borders. As a result of this wealth and of her great commerce, England developed the largest and strongest financial institutions in the world, which in turn assisted in the further growth of both manufacturing and commerce. All parts of the economic system were closely connected in this movement, as they are in all periods of industrial development.

This rough sketch of the industrial revolution has been given because without it one cannot understand clearly the desire for protection in countries like Germany and the United States during the nineteenth century, nor the industrial development of those countries. It is perhaps a defect in List's work that he did not appreciate the importance of the industrial revolution. But the fact is that at that time very few understood its significance. It is not true, as sometimes assumed, that the industrial revolution made it easier for other nations to develop industrially. It made it harder, because this revolution gave England such a tremendous advantage that it was difficult

for the other nations to compete against her manufacturers. It is likewise wrong to assume that the industrial revolution, by replacing hand labor with machine labor, made it possible to acquire the arts of industry more easily. Those who arrive at this conclusion concentrate their attention too exclusively on the operatives and the machines: they forget the importance of the knowledge necessary in modern industry on the part of the heads of enterprises, engineers, foremen, and the like. It is moreover questionable whether less skill is now required on the part even of the operatives. "A large part of the machinery used in manufacturing establishments is not entirely automatic and requires operators, who, in many cases, are more skilled than were the hand employees whom the machines replaced." [1]

[1] "The Trend of Occupations in the Population," by M. Z. Jones of the United States Bureau of Labor Statistics in the Monthly Labor Review of that Bureau for May, 1925. *See also* George E. Barnett, "Machinery and Labor," Cambridge, 1926, Chap. V.

CHAPTER X

DIFFICULTIES OF EARLY AMERICAN MANUFACTURERS

Among other things indicated in the previous chapter was the great dependence of each industry upon other industries. This interdependence of the different branches of manufacture affects the time necessary for the establishment and growth of any one of these branches; since they mutually aid and supplement one another in a great variety of ways, the growth of one or a few of them has a considerable effect upon the conditions governing the others. What are known to economists as external economies, that is, economies incident to the increase of output of a given article, but external to the separate business establishments producing the article and often to the industry itself, are of importance in rendering production easier and more efficacious; but there are economies within the industry itself which make themselves felt as the industry grows and develops, and which need the passage of time in order to unfold and affect the cost of production. It is proposed in the present chapter to consider what some of the factors are, the absence of which impede and the presence of which importantly aid the progress of industry.

The first of these has to do with the size of the business unit. It may be laid down as a fact of universal validity in the industrial world that the size of a business plant

has an important effect upon the cost of production per unit of the commodity which that establishment produces. If we were to take a typical business establishment in any industry we should find that there is a size beneath which the business unit cannot go without making costs of production inordinately high. This size is very large in some industries, such as steel-making, and very small in others, such as cigar manufacture; but enterprises in any industry beneath this size, whatever the size may be, suffer for a number of reasons from high costs. In the first place the establishment is so small that full utilization cannot be made of the economies of the division of labor. In the steel industry the possibility of this kind of economy is great and consequently the "minimum" size will be large; while the industry of cigar-making offers less possibility for a minute division of labor, and the minimum size is therefore small. If a business enterprise is beneath this minimum an increase in its size is almost sure to be accompanied by a decline in the cost of production, per unit, of the commodity; in other words it is operating at a decreasing cost. In the second place, it is often impossible to employ labor, or capital, or land, or business ability in small quantities. The technical nature of an industry may make it impossible for a business enterprise to be launched in that industry without a large initial expenditure for capital or land. Take as an example a railway. Here the initial application of capital has to be very great; a railway has to have a roadbed, rails, and terminal facilities in addition to a considerable amount of rolling stock before even one unit of transportation can be produced. If at the commencement of business the amount of traffic to be carried is small, the number of laborers and the staff of the railway will be

very small as compared with the outlay on capital equipment. As business increases, the number of laborers is increased; but—and here is the important point—the capital equipment will not be increased in anything like the same proportion. For a time, therefore, the railway will be operated at decreasing cost; that is, every increase in traffic will cut down the per unit cost of production, since all the factors of production will not have to be increased in the same proportion as the output of transportation. The bearing of this example on the matter at hand is simply this, that in those lines of enterprise in which the business unit has of necessity to be large in order to secure a minimum per unit cost of production, an enterprise will not be started unless there is a fair prospect of doing a large amount of business. In some businesses the factor of production which cannot be divided into small units of application is capital, in others land, and in others business ability. Take as an example of the last the services of an able business executive, and suppose that he is in charge of a manufacturing establishment. This establishment will have to be large; the application of labor, land, and capital will have to be great in order to utilize to the full his considerable managerial ability. Until the enterprise is of this size it will be run at increasing returns, or at decreasing cost of production per unit of output as this output increases.

All this has a direct bearing upon the question of protection. An industry in which the size of the business unit tends to be large will have great difficulty in establishing itself in a country against the competition of manufactures in other countries in which the business units are large and the costs of production therefore low, with-

out some measure of tariff protection. In the production of iron and steel, for example, American manufacturers experienced considerable and continued difficulty in establishing their enterprises, because of the devastating competition of iron and steel from England, where the industry was long established, the business units therefore large, and the costs of production low. Something more will be said about the American iron and steel industry with reference to protection in a later chapter.[1]

Until the business unit has attained the size of maximum efficiency, cost of production will be high, and there will be difficulty in establishing the industry without help from a protective tariff; and it follows as a corollary from this that once the maximum size has been attained, no further help of this sort can properly be secured from protection. But there are, it is needless to say, other economies which lead to a lowered cost of production, and which have no necessary connection with the size of the business unit [2]—economies which are inherent in the nature of industrial development. These differ from society to society and from industry to industry, the only common feature which they possess being the necessity of time to bring them out.

One of the difficulties which a new industry is likely to meet, and which has, perhaps, been present in the United States more constantly than in most other coun-

[1] *See* pp. 197-200.

[2] The advantages attributed by Adam Smith to the division of labor have been touched upon at numerous places already. There is a large class of miscellaneous advantages elaborated by Professor Edgeworth, who has very thoroughly covered the subject of decreasing costs. *See* F. Y. Edgeworth, "Papers Relating to Political Economy," London, 1925, Vol. I, third paper, entitled "The Laws of Increasing and Diminishing Returns." *See also* J. M. Clark, "Economics of Overhead Costs," Chicago, 1923.

tries, has been the preference of the consuming public for articles of foreign manufacture. In the middle of the nineteenth century American manufactures seem to have been peculiarly handicapped by this preference. Imported goods were supposed to be better. Of course in many cases the foreign articles were better; but whether they were of superior quality or not, the public always assumed that they were more desirable. Moreover France, then as now, led in fashions for women's clothing, and England in those for men's; this gave and still gives these countries great advantages in the manufacture of fine textiles. The head of an international manufacturing firm has asserted that when his representatives endeavored to sell goods they never mentioned the fact that they were from an American factory, but gave the name of their firm, and designated its headquarters as Paris and another Continental city. The buyer had probably no suspicion that the goods were made in this country. Another manufacturer stated that in a fashionable tailoring establishment he once asked if all the goods were imported, and that they assured him that they used nothing but imported English cloth. He did not inform them that they were mistaken, and that six of his own pieces lying on the table had been manufactured only a few miles away. It would be wrong to consider this aping of foreign fashions a new phenomenon in the middle of the nineteenth century. Washington speaks of it in a letter to Lafayette in 1789; he said, "I have been writing to our friend General Knox, this day, to procure me homespun broadcloth of the Hartford fabric, to make a suit of clothes for myself. I hope it will not be a great while before it will be unfashionable for a gentleman to appear in any other dress. Indeed we have been too long

subject to British prejudices." [1] As pointed out by Roscher,[2] a sovereign can help a good deal in popularizing certain products of his own country.[3] Unfortunately or fortunately, there was no sovereign in the United States to help American manufacturers.[4]

Still another thing that was detrimental to the progress of manufacturing industries in the United States during the nineteenth century was the constant criticism of the protective policy, the constant threat of free trade, and the occasional lowering of the tariff such as occurred between 1833 and 1861. Bigelow, who notes this point,[5] states that this was probably inevitable; but is he not mistaken? Was it inevitable that there should be so much criticism? The criticism was due partly to the supremacy of the *laissez-faire* theory and the classical free trade doctrine in the middle of the nineteenth century. It was due in great measure also to the fact that the tariff became a party issue, especially after the Civil War. One of the great reasons why manufacturing industries advanced rapidly after 1895 was that, beginning in 1896, other questions were uppermost in the minds of the people, and

[1] William Hill, *op. cit.*, American Economic Association, Nov., 1893, p. 129. Washington lived up to his belief in this matter, and wore a homespun suit at his inauguration.

[2] William Roscher, *op. cit.*, Vol. II, p. 424, note.

[3] Newspapers recently (1926) reported that King George V has been asking government officials and others to use English instead of American typewriters.

[4] This tendency to follow the fashions of countries of a more mature culture goes back even further than Washington's time. Shakespeare speaks of

> "Report of fashions in proud Italy,
> Whose manners still our tardy apish nation
> Limps after in base imitation."
>
> "Richard II," Act II, Scene I.

[5] E. B. Bigelow, "The Tariff Question," Boston, 1862, p. 40.

temporarily directed attention away from the tariff. In 1896 the Democratic party adopted free silver as a paramount issue, and in 1900 anti-imperialism. Victorious on both these issues, the Republican party became much stronger, and the rising popularity of Roosevelt seemed to be one potent cause of its continuance in power for many years. Though it continued to be a party issue, very little was heard of the tariff between 1896 and 1908. Then, with the depression following the panic of 1907, the rising cost of living, and the break in the Republican party between Roosevelt and Taft, the Democrats saw their opportunity, and alleging that the tariff was the cause of the increasing cost of living (they wholly ignored the fact that it was rising in China as well as in the United States, and that in Austria there were bread riots) they won the congressional election of 1910 and the presidential election of 1912. Perhaps one of the greatest pieces of political folly ever committed was the enactment of the Payne-Aldrich tariff act of 1909. For a year or more there had been talk of some alteration of the schedules. It was supposed by everyone (if not too much trouble) that if any alterations were made, the schedules would be lowered; but some of the rates were raised, and the result was the repudiation of the Republican party at that time. The act, though denounced, was not bad; politically, however, it was a huge mistake.

There were some further handicaps that the American manufacturers labored under that deserve mention. It has, for instance, been maintained that the period of early protection in the United States, during and after the Napoleonic wars, was sufficient to cause to be established any branch whatever of manufacturing adapted to this country's particular conditions. If any

type of enterprise failed to be established, or, after the protection was lessened in the thirties, faltered or showed signs of feebleness, many economists considered it as demonstrated that such an enterprise could be carried on in this country only at a considerable disadvantage. Some have further held that if manufacturers, after their early start, fostered by the Embargo and Non-Intercourse Acts and the early tariffs up to 1832, failed to prosper, it was due to their own stupidity, lack of enterprise, or most likely of all, to their habit of dependence on governmental aid. Now it is possible to accuse justly an individual of lack of enterprise, and it is possible to accuse justly even a nation of this fault; but it is not likely that one class of people in a nation should possess a fault which contradicts the general character of the people of that nation. As a whole, American people have been constantly characterized as energetic, enterprising, and progressive; and it is absurd to say that the manufacturers were an exception to this general rule. Moreover in each community in the North those at the head of the industries were looked upon as the most enterprising in their locality. One is compelled, therefore, to conclude that there must have been some general reason or reasons other than lack of enterprise to which one may attribute the apparently slow and halting progress in American industries from about 1832 to 1880 and later, and the constant calls for more protection by the manufacturers.

The great extent of unoccupied fertile soil, and the profitableness of agriculture in general and of cotton-growing in the South in particular, have already been mentioned. The great extension of the English cotton industry during this period, the very heyday of its prosperity, made the latter more and more lucrative. The

repeal of the English corn laws in 1846 opened the best market in the world for American wheat, and further increased the advantages of agriculture in the North and West. Moreover in the latter part of this period improved agricultural implements, the use of machinery, reapers, and other products of American ingenuity especially adapted to large-scale farming and American conditions particularly, together with the opening of what is now called the Middle West, and the increased facilities of communication provided by canals, steamboats, and finally railroads, gave American agriculture a great impetus. In fact it may be truthfully said that we were feeding Europe.

The Civil War, like all wars of magnitude, wrought great economic changes. Loosening as it did the home ties of those who for three or four years had been in the army, and accustoming thousands of men to hardships similar to and greater than those of pioneers, it was but natural that it should have markedly accelerated emigration into the great West; and thus the East was drained of some of its best and most skilled labor. Furthermore, during the early part of this period occurred a most momentous event: in 1848 gold was discovered in newly-acquired California. This discovery had a threefold effect: it caused a great and rapid rise of prices, especially in the United States; it further stimulated the emigration to the West, this time to the Far West, thus further depleting the supply of labor; and finally, it had the effect of increasing general profits.

Consider for a moment what the manufacturers of that day had to contend with. Starting years behind England, barely established, with insufficient and not very skilled labor, they were obliged to compete with a most profitable

agriculture—the most profitable agriculture of all time. Moreover nearly everything seemed to increase their difficulties: the discovery of gold,[1] the opening of California and the Far West, the application of machinery to agriculture, and many other events. What they needed was abundant skilled labor, capital, and greater technical knowledge; yet not only did they lack capital and labor, but as we have seen, as far as labor was concerned they constantly lost, or were on the point of losing, what they had acquired. The limited capital in the country was being used largely to build our great railroad and telegraph systems, and shipping and newly discovered mines were also absorbing a great deal of the investment funds then available.[2] English investors had confidence in our railroads, but at this time little in our industries. Hence not much capital could be drawn from England or other countries for this purpose.[3] To be sure, after 1846, as far as the labor supply was concerned, matters did not seem wholly desperate. As a result of the famine in Ireland and political troubles on the Continent, especially in Germany, emigration to this country decidedly increased, and gave the East a fair supply of labor; but the railroads and other enterprises of a public and semi-public nature claimed a large share of this supply. Moreover these immigrants, with the exception of a small number who came from England, were generally unskilled in the new industrial arts; and though it is true that after a few years they acquired skill perhaps nearly or quite

[1] As a result of the discovery of gold there was until the panic of 1857 a brief period of prosperity, in which the manufacturers shared to some slight extent.

[2] All of these also created a demand for labor.

[3] The capital coming to this country in this period for our railroads affected our foreign trade, causing the imports to exceed the exports.

equal to that possessed by the native stock they replaced, unfortunately for the manufacturers they gradually followed the footsteps of the others, and in large numbers went West, or into other pursuits. They were, of course, replaced by the newer arrivals; but these in turn were without skill or knowledge of the new processes of manufacture. This constant change in the labor class has been of great disadvantage to American industry. Produced by the constant flow of population from overcrowded Europe to that part of the new world whose political conditions were, with the possible exception of Canada, the most stable, and the general prosperity the greatest, this ever recurring change in the personnel of the artisan class in this country was one of the chief reasons for the inability of American manufacturers in general to compete on even terms with European manufacturers.

But this situation in the course of time disappeared. Free land became exhausted, and gold and silver no longer lured the mechanic from the factory to the West. Manufactures grew, a skilled labor population was developed, the era of railroad building came to an end, and labor, but lately flowing from the factory to the farm, turned back from the farm to the factory, until the problem became how to keep men on the farm rather than how to keep them from going to it. Thus it was that conditions which seemed unpropitious for manufactures in the middle of the last century seemed peculiarly favorable at the end of the century. The factors which condition production are variable, and comparative advantage may at any time be affected by changing conditions.

Another of the very important difficulties which nascent industry has to face is the lack of intangible equipment: trade secrets, industrial knowledge, craftsmanship, and

such things, the possession of which is the social heritage of generations of experience in many lines of manufacture. The acquisition of this equipment by both business enterprisers and the laborers they employ is a *sine qua non* for successful production. In Europe not only have laborers long held their positions, but they have, as it were, bequeathed their skill through several generations. The term "heritage of skill" used in connection with this phenomenon implies inheritance of acquired characteristics, the possibility of which it would be perilous either to assume or to deny, since the opinions of biologists and zoölogists are at present by no means in harmony. It is not necessary to touch questions of evolution here; the undeniable fact remains that many communities in Europe have possessed special skill in certain pursuits. The phenomenon is fairly common, the explanation irrelevant; for if it be determined that transmission of acquired characteristics does not exist, the effects of environment suffice as explanation.[1] Physical traits, of course, are transmitted; and it is therefore probable that those physically adapted to performing certain specialized work will find it

[1] The effects of environmental influence are clearly set forth by A. C. Pigou: "The environment of one generation *can* produce a lasting result, because it can affect the environment of future generations. Environments, in short, as well as people, have children. Though education and so forth cannot influence new births in the physical world, they can influence them in the world of ideas; and ideas, once produced or once accepted by a particular generation, whether or not they can be materialized into mechanical inventions, may not only remodel from its very base the environment which succeeding generations enjoy, but may also pave the way for further advance. For, whereas each new man must begin where his ancestor began, each new invention begins where its ancestor left off. In this way a permanent, or rather, a progressive change of environment is brought about, and, since environment is admittedly able to exert an important influence on persons actually subjected to it, such a change may produce enduring consequences." "Economics of Welfare," London, The Macmillan Co., 1924, pp. 99-100.

profitable to do that work. Let us assume that of the children of those engaged in industrial pursuits, one-half inherit the necessary physical traits to make them unusually proficient in a certain trade; then may we not further assume that after some trial most of these will continue in this work, and the others find other occupations? After several generations a community will be produced in which a very large proportion has the required skill. Where the whole community occupies itself with one industry, there is sure to be exceptional skill among some of its members, and these act as teachers and guides to the rest. Thus arise the traditions and trade secrets which are handed down from generation to generation.[1]

[1] *See* James Davis, "The Iron Puddler," Indianapolis, 1922, Chapter III.

CHAPTER XI

SECRECY IN INDUSTRY

The possession of the traditions and trade secrets referred to in the last chapter is so important an element [1] in the development of an industry as to justify at this point a digression to consider the methods of acquiring and retaining the industrial arts. To avoid confusion, we should at the outset have a clear idea of what is intended by the term "industrial arts." The Century Dictionary gives as its second definition of industry "productive labor; specifically, labor employed in manufacturing; manufacture." In the article "Gewerbe," in Conrad's "Handwörterbuch der Staatswissenschaften," [2] industry is defined as that part of production which consists in altering the form of raw material. The industrial arts are, then, the manufacturing arts; and the word industry is used quite commonly, and especially in this book, in contradistinction to agriculture, to the extractive arts such as mining, and to trade. It is necessary still further to narrow this definition. All manufacturing, all work which aims at and succeeds in altering the form of material, is industrial work; but very often the term is used to mean the industrial arts which are pursued with intent to send the product to market and sell it. From now on this term will be used to mean manufacturing for a

[1] The psychologist Tarde has brought out this fact effectively. *See* "La Logique Sociale," p. 352; *see also* Pigou, *op. cit.*, p. 101.

[2] Jena, 1909, Vol. IV, p. 847.

market, and not the simpler manufacturing which, until recent times, was carried on in most households and still is carried on in this way in some parts of the world.

These simpler industrial arts—spinning, weaving, and so forth—have been found among many primitive races. Weaving, perhaps the oldest of all industrial arts, especially in its original form of plaiting, has always been widely diffused. But with rare exceptions the industrial arts occupied with primitive races and the earlier historic races a much less important place than agriculture. As food is the most immediate need of man, and the procuring of food has of necessity maintained in the case of all peoples the place of first importance, a considerable knowledge of agriculture is, or at least was, a first necessity to all groups of mankind at all advanced in organization. Not only were the arts of agriculture widely known in prehistoric and early historic times, but whatever methods and implements were discovered were very generally diffused, considering the poor means of communication that existed until somewhat recent times. This does not mean that all agriculture was the same, for that is far from the fact. There were great differences; but these differences were the result of different conditions and different customs. Generally there were no secret methods; indeed, in agriculture secrecy would be difficult, for agricultural operations are necessarily performed in the open, and cannot easily be concealed, even by one tribe from another. Moreover though they are of course performed better and more expeditiously by the skilled than by the unskilled, they require no unusual dexterity. While many have objected to the statement of Adam Smith that nature helps more in agriculture than in the operations of indus-

try, Smith was not wholly wrong.[1] Theoretically Smith's critics may be right; but the very fact that even if man does nothing nature will still produce, though not in such abundance, shows that in a practical way nature is more manifestly helpful here than in industry.

With the arts of industry all this is different. Not only may the methods of production be easily concealed, requiring as they do little space, and usually being performed under shelter, but also, as is not the case with agriculture, considerable skill and deftness are required in some of the industrial arts even now; and this was probably more often the case before the advent of machinery. But perhaps one of the greatest differences between agriculture and industry in the past was due to the difficulty of transporting agricultural products on account both of their bulk and of their perishableness. Grain was brought in ships to Athens and Rome and other large centres of population in the ancient and mediæval world, but these were exceptional cases; generally, especially where inland points were concerned, transportation was impossible. In mediæval times and even much later, as in recent years in India, owing to the lack of good roads, famine and plenty occasionally occurred within a few miles of each other. Of course, excepting grain, few agricultural products could be transported any considerable distances. On the other hand, even with the extremely limited transportation facilities of the past, the products of the industrial arts could be and were transported. To be sure, the simpler industrial arts were widely diffused; if not quite to the same extent as agriculture, still to a considerable

[1] Of course Adam Smith was mistaken, for he says in substance that nature does a great deal in agriculture, and nothing in manufacturing—a statement that was never true, though seemingly more so in his time than now. "Wealth of Nations," Book II, Chapter v.

extent; most persons, to within a few hundred years, wore homespun clothes; but as already explained, the household arts of spinning and weaving are not the industrial arts in the sense here intended. Though most people except the rich and well-to-do regularly purchased little of what they used, they occasionally bought something at the fairs and from peddlers; and the rich of all times have purchased a considerable portion of what they required.[1] Thus we see that those who practiced or profited from others' practicing the industrial arts had an object for concealing improved methods of production, because it was only by keeping secret these methods that they could obtain an advantage over others who were also producing for the same market. But with agriculture, since each household, each manor, each economic unit generally produced only for itself, there was no such reason for concealment.

As a result of these facts, agriculture and the more developed industries—the industrial arts carried on by skilled artisans, the products of which were intended for a market—have had very different histories. Throughout the historic past of Western civiilzation, that is, of Asia Minor, northern Africa, and Europe, and latterly of the European races in other parts of the world, all countries, generally speaking, have fed themselves; but there have usually been only a few, sometimes only one community, sometimes a city and sometimes a nation, that have occupied a commanding position in industry. All through the history of Western civilization, which is, as has been said, a united whole, the manufacturing arts which constitute industry were to a great extent veiled in secrecy—

[1] William C. Webster, "A General History of Commerce," Boston, 1903, p. 37.

except for the crude spinning and weaving and other household arts. All this, as has been intimated, is in direct contrast to the arts of agriculture. Industry has been an esoteric, husbandry an exoteric art.

Even if it were not difficult to practice concealment in agriculture, there was no reason for concealment. One man or group of men, having discovered some new method of agriculture, would have no motive in keeping it secret; for since up to recent times each farm or manor was self-sufficing, it could not be harmed by another farm's practicing the improved methods. It is only when production is for a market that secrecy is advantageous: then it is apparent that every improvement in method and every new product will result in increased profits, if not adopted by others who sell the same article. It is quite evident that if all or most of those who do sell in the same market adopt the improved methods of production, it will be the public and not the producers who will profit. It is necessary to stress this point; little attention, certainly not enough, has been called to this fundamental difference between the agricultural arts and the industrial arts.[1]

To be sure, agriculture has been carried on for the market in many countries, chiefly in the United States, since 1800. It has already been pointed out that agricultural operations, performed necessarily out of doors, are difficult to conceal; but over and above this patent fact, the reason why the improved processes of agricul-

[1] But Adam Smith did call attention to this difference between agriculture and manufactures. "Farmers and country gentlemen . . . are generally disposed rather to promote than to obstruct the cultivation and improvement of their neighbours' farms and estates. They have no secrets such as those of the greater part of the manufacturers, but are generally rather fond of communicating to their neighbours, and of extending as far as possible, any new practice which they have found to be advantageous." "Wealth of Nations," Book IV, Chapter ii.

ture of the last century have not been kept secret is that the tradition of helpfulness has prevailed. Moreover, improvements almost always came from without the farm; they were the results of government experiments, or else they were new agricultural implements which could be bought by all. Also, the perishable nature of many agricultural products, especially fruits, has limited until very recently the area of each individual market. Finally, the extremely large number of units in agriculture makes it seem to a farmer no disadvantage or loss to himself, but rather an office of ordinary kindness, to help his neighbor. Farmers, at least in this country, have a feeling that they must pull together, that they are all in the same boat. It should not be forgotten, however, that the spirit of monopoly at one time did prevail among the farmers and country gentlemen of England, and that the corn laws, restricting the importation of cereals, were enacted at their instigation. Later they bitterly opposed the repeal of these laws. Adam Smith says that they forgot the "generosity which is natural to their station" and failed "to consider how much less their interest could be affected by the freedom of trade than that of the people [manufacturers] whose example they followed.[1]

The practice of secrecy in connection with the industrial arts is persistent all through history. Dyeing was an extremely secret process; in fact, at one time during the Middle Ages it was so carefully guarded that it was supposed to be one of the "black arts." The working of iron, and metallurgy in general, were secrets confined in the past to a few nations, and in these nations to a few families; for it must be understood that there were two reasons why the industrial arts were concealed: one, for

[1] "Wealth of Nations," Book IV, Chapter ii.

profit in the case of an individual or small group of individuals, and the other for protection in the case of a nation. A great advantage was held by the nation or the family which possessed these secrets of metal working. The smith in early times was regarded as a magician, or one who understood all the secrets of nature: he was an aristocrat. Working in metal was the one worthy calling.[1] In Germany a few families guarded well the secret processes of the smelting of iron, and it was not until the seventeenth century that the art was introduced into England and Sweden.[2] Many attempts were made to discover the secret processes of John Huntsman, the son of a German, who in 1740 made cast steel in Sheffield,[3] and they were finally discovered through a clever though despicable deception. According to Venetian law, the relatives of artisans who emigrated were imprisoned if they were unsuccessful in inducing the emigrants to return home; and under certain circumstances the emigrant, if apprehended, was put to death. This practice is said to have continued until 1754. The laws of Florence threatened with death any who carried the secrets of the silk or brocade industries into foreign countries. In Nürnberg the braziers were prohibited, on pain of being sent to the house of correction, from showing their mills to strangers. In Belgium the enticing of manufacturers of bone-lace to emigrate was made punishable. In the latter part of the eighteenth century, Austria prohibited glass-makers and scythe-makers from emigrating.[4] Early in the eighteenth century, Augustus II, Elector of Saxony, established

[1] Schmoller, *op. cit.*, Vol. I, p. 204.
[2] *Ibid.*, Vol. I, p. 211.
[3] *See* Hammond, *op. cit.*, p. 142; *see also* Edward Cressy, "Outline of Industrial History," London, 1915, pp. 114-115.
[4] Roscher, *op. cit.*, Lalor translation, Vol. I, p. 447.

a pottery manufactory which was virtually a prison for the operatives. On the walls was inscribed "Be secret until death." [1] "Evidences of a too eager curiosity on the part of foreigners, combined with their own experience with the amazing competitive value of the new inventions, led Englishmen to develop a vigorous policy of trying to retain for themselves the exclusive use of their improvements. The groundwork of this policy was a comprehensive system of laws to prevent the inventions or a knowledge of them from reaching foreigners." [2] "Foreign manufacturers resorted to expedients beyond number to secure knowledge of English improvements in iron smelting and manufacturing and in pottery making as well as in the cotton industry. They induced English working men and even master manufacturers and capitalists to go abroad. They offered inducements to English inventors as well as artisans to seek their fortunes in other countries. They sent agents to England with letters of introduction, and secured similar letters from prominent Englishmen, by means of which they tried to secure access to English industrial plants; and when this failed, they sent spies who, under various disguises, attempted to secure drawings and first-hand knowledge. They employed draftsmen to copy drawings and specifications from the official patent records. They offered to purchase English goods on condition that samples of the instruments with which the goods were made were sold with the goods. They resorted to various subterfuges to conceal the smuggling of machinery and tools. They spread a knowledge of English inventions such as they

[1] John Yeats, "The Technical History of Commerce," London, 1887, p. 260.

[2] Witt Bowden, "Industrial Society in England Towards the End of the Eighteenth Century," New York, The Macmillan Co., 1925, p. 129.

were able to secure by means of public exhibits of models (a policy naturally not encouraged by the manufacturers themselves, however). They even used public funds for subsidizing manufacturers who succeeded in securing English machines. The principal countries involved were France, Austria and the Empire, Prussia, Holland, and the United States." [1] "Englishmen, formerly less advanced than various Continental peoples, had from time to time resorted to similar methods of stealth and subterfuge to obtain foreign inventions." [2] There was an English law prohibiting the export of the stocking frame, and also one protecting the silk machinery which had been stolen from the Italians by Lombe of Derby, who disguised himself as a common workman, obtained employment in Italian mills, and discovered how their machinery was made. An English law enacted in 1774 forbade the export of tools used in manufacturing cotton, and later the export of sketches and models was forbidden. Up to 1825 skilled artisans were prohibited by law from emigrating.[3] The English manufacturers did all in their power to preserve the secrets of their machinery; [4] Josiah Wedgwood even suggested a secret arrangement with the government for opening letters of workingmen, who, it was feared, might emigrate. English pottery was of inferior quality until the arrival of two Dutchmen who were said to have come over with William III. They worked in great secrecy, and there is a legend that one of them

[1] Bowden, *op. cit.*, The Macmillan Co., pp. 132-133.

[2] Bowden, *op. cit.*, The Macmillan Co., p. 134.

[3] *See* Cunningham, "Growth of English Industry and Commerce," Vol. II, p. 610, 1892 edition.

[4] Arkwright purposely drew up the specifications of his patent so that they could not be understood, and when accused of doing so his defence was that he wished to make it impossible for foreigners to copy his machine. But it was generally believed that he wished to make it impossible not only for the foreigners but for his fellow countrymen as well; and the patent was thrown out.

had a speaking tube from his house to the works a mile away, in order to give warning of the approach of strangers. Finally, as usual, their secrets were discovered.[1] The manufacturers of other nations, realizing the great advance that England had made at this time as a result of the industrial revolution, resorted to every conceivable expedient to learn about the new methods and machinery.[2] It may be interesting to note that American manufacturers were among the most persistent in trying to obtain British industrial secrets. When in 1811 Mr. Francis C. Lowell of Boston went to England to inspect the new cotton factories and to obtain all the information he could regarding the new processes of cotton manufacture, and especially to find out about the new power loom that was being introduced into the cotton mills at that time, he found evidence of a great deal of secrecy, and was told that the loom was not a great success. Apparently not believing this, he returned to the United States and shortly afterwards perfected a very satisfactory loom.[3] But anyone acquainted with commercial and industrial history realizes how general has been the practice of secrecy, as indeed do most of those engaged in manufacturing to-day. "Trade secrets" is still a common expression in the language. As has been said, these secrets were sometimes the general property of a community, even of a nation; and sometimes the property of a family, and later of a firm. The latter were of two kinds: the secrets known only to the heads of the business, such as chemical formulæ, and those known to the workmen.

There are to-day many manufacturing establishments

[1] *See* Hammond, *op. cit.*, p. 165.

[2] *See* Bowden, *op. cit.*, pp. 130–135.

[3] *See* Carroll D. Wright, Report on the Factory System of the United States, Tenth Census, in Benjamin Rand, "Selections in Economic History," Cambridge, 1895, p. 406.

with secret processes. It is said that the manufacture of the so-called Oxford or India paper is a carefully guarded secret. It is easy enough to manufacture thin paper, but it has been found extremely difficult to manufacture thin paper opaque enough to permit printing on both sides. Another interesting instance is the case of a prominent textile manufacturer who offered to show certain machinery to a competing concern, but only on condition that he should be allowed to visit a certain department of his competitor's factory. The offer was refused; and it was generally believed that the manufacturer who thus refused to show one of his departments had improved methods that were being kept secret. Another instance perhaps worth noting occurred on an occasion when a party consisting of four persons asked permission to inspect a certain plant. Two were allowed to go through; the other two, who were in a competing business and supposed to be experts, were requested to remain in the office. It is foolish to scoff at these secrets, as some do: were they not an asset, they would not be so jealously guarded.[1] The heads of many industries may profess a willingness to show their competitors everything; but they often do so

[1] A good example of the existence of trade secrets is to be found at the present time in the case of lacquer. This is manufactured by a small number of companies in the United States. All of these companies make lacquer according to formulæ carefully guarded from the eyes of competitors. Even workmen engaged in its manufacture are unacquainted with the ingredients and the proportions in which they are blended. Further, it will be remembered that during the war it took some time for the chemists in this country to learn how to make certain dyes. In a special article in the Boston Evening Transcript for Monday, May 17, 1926, H. Parker Willis, editor of the New York Journal of Commerce, states: "Everywhere in Germany the desire to eliminate American capital and to avoid relying upon it for the future is openly avowed, and the reason assigned is this very one—the desire to avoid foreign control, the fear that what Americans have already lent is giving far too much in the way of a 'look-in' upon German business methods and secrets."

in the belief that nothing of importance will be discovered in a hasty walk through their plants. It is true that in recent years there has been less secrecy than formerly, for most important processes are now generally known. Moreover, many processes are now patented; and it is probably largely because of our patent system that there are relatively fewer secrets now than formerly. The unfortunate results of the attempts of some of the pioneer inventors such as Samuel Crompton to rely upon secrets led many later to prefer the temporary protection of patents to the possibly longer but doubtful protection of secret processes and machines.[1] Patents can be obtained only by the inventor's disclosing his invention for the benefit of the public; and for this reason many processes that might still be concealed by their inventors are now known to all those acquainted with the industries to which the processes pertain.

But another class of secrets, those known to the workmen, is still very numerous; probably much more so than is generally realized even by the managers of the shops and factories themselves. Indeed, the very fact that workmen possess such secrets is hidden in such expressions as "skilled artisans." One seldom stops to think what "skilled" in this connection stands for; but every now and then, when some man dies or leaves his work, or oftener when an attempt is made by a successful executive to start a branch or competing shop or factory in a foreign country or another part of his own country, or when on account of a strike a large number of men leave a manufacturing establishment, a sudden realization comes of how greatly industry depends on the collective skill and

[1] But in earlier days, before the present patent system was devised, it was only by means of secrecy that manufacturers could profit by their inventions, discoveries, and improvements.

knowledge which exists in industrial communities as a heritage from the past.[1] And it must not be understood that all workmen are equally informed concerning all the processes; nothing is further from the fact. Only a few, sometimes but very few—one family, even a single individual—understand thoroughly the best way to do certain work. Secretary Davis, in his interesting book, "The Iron Puddler," speaks of this kind of secret. He refers to the methods, tricks, and processes which a large class of workmen, generally of the same race, keep among themselves, passing them down, with improvements, from generation to generation among their own people. A Welshman, an iron and steel worker himself, as were also his father and brother, Mr. Davis speaks of the secret knowledge which the Welsh[2] in the iron districts had acquired and kept to themselves.[3]

However, manufacturing plants are now so large, and in countries like England and the United States, inventive genius is so general, that the loss of one man, or even of

[1] That this fact has been well recognized by leaders in industry is shown by the following statement made by Mr. Carnegie to Dr. Samuel H. Church, President of the Carnegie Institute: "Let flood or fire destroy my plant from the face of the earth, but if I retained my organization I would be whole again in six months."

[2] Note that in this country the different racial groups are employed in those industries or pursuits in which their native countries are preëminent. Only by employing the labor of those who are especially skilled in certain industries have we been able to transplant the different arts to this continent. Professor Cole points out how important the English were in the woolen mills. *See* A. H. Cole, "American Woolen Manufacture," Cambridge, 1926, Vol. I, p. 234.

[3] "My people had been workers in metal from the time when the age of farming in Wales gave way to the birth of modern industries. They were proud of their skill, and the secrets of the trade were passed from father to son as a legacy of great value, and were never told to persons outside the family." From "The Iron Puddler," by James Davis, p. 30, used by special permission of the publishers, The Bobbs-Merrill Company, Indianapolis, copyright 1922. *See also ibid.*, p. 91 and Chapter III.

some special group, is seldom felt long. Moreover, owing to greater ease of communication, and because so much has already been disclosed in patents and leaked out and become the property of those engaged in manufacturing, and because as now the principal processes of most industries have been described in technical writings and are taught in technical and trade schools, the advantages of secrecy have somewhat decreased and are decreasing. But in the past, before the era of the railroad and steamship, before all the peoples of the world were knitted together by our present nearly perfect system of communication; before technical schools had been founded, trade schools established, and textbooks on technical subjects published; before all our present marvelous methods for the dissemination of knowledge were developed, manufacturing processes were concealed, and far more successfully than now. One may ask, if this is so, how the processes were ever spread over the world, and may possibly jump to the conclusion that the tools, machines, and processes of industry must have sprung up spontaneously in many places. No conclusion could be more false,[1] though it is evident that consciously or unconsciously some of the advocates of free trade assumed this to be true.

[1] "There is a single, united series of developments, from the first hammer and staff to the present dynamo, which always, through better observation, through continually repeated trials, gropings, and experiments, through numberless minor improvements, through increasingly more complicated combinations of known means, obtained ever greater success." Schmoller, *op. cit.*, Leipzig, Duncker & Humblot, Vol. I, p. 192.

CHAPTER XII

THE DISSEMINATION OF THE INDUSTRIAL ARTS

The industrial arts, as defined on pages 168-169, have not been disseminated to any great extent. They are not a heritage of the human race as a whole, but only of those nations which have what may be called the Assyrian-Egyptian technique, or the Egyptian-Phœnician technique.[1] These are the nations which have lived around and near the Mediterranean Sea, those of western Europe, and the western Europeans in America and elsewhere. Moreover not all of these have possessed at any one time all the more developed industrial arts; even to-day the highest development of industry is confined to a few nations. In the past usually only one nation or community was preëminent in industry: Egypt, Phœnicia, Carthage, Greece, Rome, Constantinople, the Arabs in Spain, Africa and elsewhere, northern Italy, France, Germany (especially in metals), Flanders (particularly in textiles), England, modern France, the United States, and modern Germany. What have been the occasions of the transference of industry from one country to another? If the industrial arts have been concealed or guarded, if they were difficult to acquire, and on account of the skill they required even

[1] The Oriental nations had, and still have, a technique of their own, which is very slowly being displaced by the new machine technique.

difficult to practice, how was it that these arts did spread from one community to another?

We cannot say with exactness in all cases how the changes in industrial leadership took place. War has in several ways had a most potent influence. A conquering nation could spread its industrial arts throughout the countries it had subjugated; and oftener, perhaps, it has happened that subjugated nations, industrially strong, whose manufacturing plants had been destroyed and their artisans dispersed, have spread the arts in which they were skilled. Artisans have been enslaved and been compelled in other countries or in their own to pursue their arts for the benefit of their masters; and here we may call attention to the fact that many of the artisans of Greece and Rome were slaves. To slavery is probably due the fact that so little progress was made in the manufacturing arts at that time, when, owing to a fairly good market, more progress might be expected to have taken place; for a slave has no incentive to improve processes: improvement will benefit not him, but his master. Moreover, the history of industry has shown that each improvement is attended with difficulty, as the experiences of the pioneer inventors, those of about one hundred and fifty years ago, amply prove. Before that it must have been even more difficult; in fact, we know that it was, for several of the machines and processes that later proved profitable, though invented earlier, were not successfully launched.[1] This was doubtless in great measure due to lack of a sufficiently large market and financial resources; not only a lack of wealth in the case of the individual,

[1] It must be stated that these unsuccessful inventions were exceptional cases, and that there were really few attempts at improvements. *See* William Cunningham, "Western Civilization," Cambridge, 1910, Vol. II, p. 276.

but also the general absence of wealth, since large accumulations of capital did not arise until later; but the primary cause of their failure was that machines could not be properly made. Even later in England, during what we sometimes call the period of the great inventions of the industrial revolution, Watt and others had great difficulty in making their first machines.[1] The obstacles that pioneer inventors have had to overcome could not have been overcome by slaves; especially would the ridicule and doubt of others have been inhibitory, for they had to depend on others for everything.

Dispersion of the artisans of a conquering nation over subjugated regions, the enslavement and transference of the skilled workers of vanquished races as a result of defeat in war, and the consequent dissemination of the arts they practiced were perhaps the commonest unintentional means of spreading the industrial arts.[2] Most of the other methods were intentional. Exactly what steps were taken in many cases can only be surmised, but the means employed in others are definitely known, such as the acquisition by the Flemish of the art of finishing woolens. The Florentines had long been famous for woolen manufacturing[3]—which, by the way, they may have acquired originally from the Flemish. As the Florentines progressed in the manufacturing of woolen cloth, their brocade became especially known because of its finish, and their business grew so great that they engaged foreigners to do their weaving for them, among these

[1] J. W. Roe, "English and American Tool Builders," New Haven, 1916, p. 2.

[2] Cunningham, *op. cit.*, p. 278.

[3] How few people coming from the textile districts like New England, and admiring the great paintings and art of Florence, realize that it was the wealth created by a textile industry that made them possible!

the Flemish. Thus the discovery was made by them of the Florentine method of finishing cloth. From that time, Florence began to decline in importance as a textile centre.[1]

One thing stands out quite clearly: it was assumed that only by means of personal instruction could the industrial arts be transferred from one place to another. This was in all probability a safe assumption: how else could they be taught? How do we teach most things—piano playing, for instance? To be sure, in very recent years there has been some teaching by mail, but this is a modern practice, and scarcely anyone pretends that it is fully as satisfactory as the old and still preferred method of personal instruction. Some in recent years have learned arts satisfactorily from books; but such cases are always exceptional, and until about a hundred years ago there were practically no books on the industrial arts, or at least only a few, and these often unsatisfactory. Even now books are almost certain to leave out a good deal that is valuable, and are very likely to be out of date as soon as published, or shortly afterwards. We learn to dance or to play a musical instrument, we learn athletic games and all arts, by personal instruction. Science may in a greater measure be acquired from books, because in this case there is no question of skill; but even here personal contact is considered desirable. A part of the information that

[1] "This was the beginning of the end. The Florentine craftsman was not quite proof against the temptation of posing as a superior person over the heads of the northern boors whom he was unawares instructing daily in the processes of his jealously guarded industry. Taunts and example together soon told. The Flemings, if boors, were of old industrious and thrifty souls . . . and the Florentines had the mortification of seeing native cloth factories springing up all round them as rivals." E. Dixon, "The Florentine Wool Trades in the Middle Ages," in Transactions of the Royal Historical Society, 1898, Vol. XII, p. 172.

is valuable concerning some industrial arts is, to be sure, scientific, and in these cases personal instruction may occasionally be dispensed with; but never, it is safe to say, without some disadvantage. By personal instruction alone can the industrial arts be satisfactorily transferred.

"The migration of persons who possess some definite form of skill is the simplest means of transferring an art, and in some cases it is the only possible method by which an industry can be introduced into other lands. There are many matters of *technique* that can only be communicated by personal instruction, especially where manual dexterity is concerned. The invention of machinery not only saves the drudgery of labor, but supersedes many forms of specialized technical skill, and thus enables man to dispense with the effort to acquire aptitudes which were inseparable from the workman in all ages that preceded the industrial revolution. The importation of the necessary machinery is the chief step that is needed now for introducing a new industry, but it was not so in former days. The impossibility of transplanting an art, unless the men skilled in it were transferred as well, has been so generally recognized, that at many periods in the world's history cities or nations have attempted to protect themselves against foreign competition by prohibiting the emigration of artisans with a view of retaining a monopoly of some craft; while the greatest efforts were made by progressive communities to induce skilled workmen to immigrate. The history of particular industries abounds with illustrations of the manner in which the enterprise and intelligence of some one immigrant or group of immigrants have been directly instrumental in planting a craft in places where, though it had not previously existed, it

could be advantageously carried on,—the new drapery and the silk trade of England, the paper making of Scotland, and the linen manufacture of Ireland may be adduced as cases in point. For recent centuries it is comparatively easy to trace the existence of groups of aliens in England, and to specify the industrial impulse which they severally communicated. There is every reason to believe that a similar process has gone on in all ages, though the evidence as to the precise links of connection has been lost. When we consider the occasions and the frequency of personal intercommunication which existed in bygone times, we shall see that it is impossible to lay down any limits as to the extent of the influence which may have been exercised in this fashion, even though no information has survived as to the time or form in which the movement occurred." [1] All acquainted with the history of industry will understand how true the statements in the above quotation are. One may take exception only to the clause in which it is stated that "invention of machinery not only saves the drudgery of labor but supersedes many forms of specialized technical skill and thus enables man to dispense with the effort to acquire aptitudes." While it may not be quite so necessary in this age of machinery to acquire aptitudes as it was formerly, there is still a great need of technical skill in all industries.[2]

How absurd, when we realize all this, appear some of the things written by free trade advocates in the past! Walker stated that an industry should be a success from

[1] Cunningham, *op. cit.*, Vol. II, The Cambridge University Press, pp. 277-278.

[2] *See* pp. 153-154.

the start,[1] meaning an American industry started without the personal help of those skilled in the trade. How much wiser in their generation were the Englishmen like Edward III, than the free trade writers of the so-called Victorian era in theirs! Edward III, by royal grants and other means, induced the Flemish weavers to settle in England and practice their trade. Again and again, for hundreds of years, the making of woolen cloth was fostered in England by encouraging aliens with skill to settle in England, by laws prohibiting the export of wool, and in many other ways. The story is interesting and instructive, and must at this point be briefly considered.

England, being an island, enjoyed two great advantages over the Continental nations of Europe. The first and more important was its freedom from invasion:[2] from the time of William the Conqueror to the air raids of the Great War, the English people at home had no personal knowledge of a foreign foe. A second advantage was the marine climate with the considerable mois-

[1] Amasa Walker, "The Science of Wealth," Boston, 1866, p. 103.

[2] Shakespeare evidently realized the great advantage it was to England in a military way to be an island, as is shown by the following well-known and stirring verses from "Richard II." He even seems to have understood the economic advantage.

"This royal throne of kings, this scepter'd isle,
This earth of majesty, this seat of Mars,
This other Eden, demi-paradise;
This fortress built by Nature for herself
Against infection and the hand of war;
This happy breed of men, this little world,
This precious stone set in the silver sea,
Which serves it in the office of a wall,
Or as a moat defensive to a house,
Against the envy of less happier lands;
This blessed plot, this earth, this realm,
this England."

Act II, Scene I.

ture which always accompanies such a climate. Moreover six hundred years ago England was sparsely populated, and thus possessed a great amount of land that could be used for sheep. As it was free from invasion, the owners of flocks felt secure that their property would not be destroyed; and the abundant rainfall provided a rich pasturage. It is therefore not surprising to learn that England early became the foremost sheep-raising country of Europe, Spain alone vying with her in the finer qualities of wool.

But England in the thirteenth century was far behind Flanders and the Rhenish cities in the manufacture of woolen cloth. No fine cloth at all was made in England; all the better grades were imported,[1] and a large part of England's wool was exported; in fact, wool was the most important article of export.[2] But by the immigration of foreign artisans in the reign of Edward III, by a second great immigration of alien craftsmen later on, and by various restrictive measures such as prohibition of the export of wool, all this was changed; cloth became the foundation of the wealth of England, and the chief English export. "The history of English wool and cloth has a twofold interest: it explains the origin of the wealth of England, and it illustrates, with peculiar clearness, the development in industry. In the later Middle Ages wool was the one important article of export from England,—an article of which that country practically enjoyed the monopoly in the north west of Europe, so that its control formed a powerful weapon in diplomacy, and its taxation furnished an easy means of increasing the royal

[1] W. J. Ashley, "English Economic History," New York, 1893, Vol. II, p. 193.

[2] *Ibid.*, Vol. II, p. 191.

revenue. But England was not content thus to furnish Europe with the raw material: its government made continuous and strenuous efforts to gain for it the manufacture also; and its measures succeeded. Cloth became 'the basis of our wealth'; and at the end of the seventeenth century woollen goods were 'two-thirds of England's exports.'" [1] England not only supplied the raw material for woolen manufacturing, but had almost a monopoly of it in that part of Europe, and hence it is not surprising to find that when the English desired to obtain this profitable industry of cloth-making for themselves, they simply prohibited the export of wool. The first instance of this was in 1258.[2] In 1271 not only was the exportation of wool again prohibited, but also the importation of cloth was forbidden. This order was revoked a few years later; it had been enacted for political rather than industrial reasons, and England's monopoly of wool was used as a club by her rulers to obtain desired political ends; but while these prohibitions were in effect attempts must have been made to manufacture the finer cloths formerly imported; and thus was revealed England's weakness in this art. Edward III and his advisers therefore recognized that what the country needed was skill—skilled cloth makers who would practice their calling and eventually (they or their descendants) teach others their trade with all its secrets. Accordingly they did what others had done before them; they induced skilled artisans of Flanders [3] to emigrate to

[1] *Ibid.*, New York, G. P. Putnam's Sons, Vol. II, p. 191.

[2] *Ibid.*, Vol. II, p. 194.

[3] It may be asked, how did the Flemings acquire this art? It is said their knowledge goes back to Roman times. Baldwin III, Count of Flanders, persuaded Friesian weavers to settle in Ghent in 862. Earl Baldwin induced weavers from Ratisbon to come to Flanders. Baldwin

England. Disturbed political conditions on the Continent helped in the matter. Moreover Edward III did not believe, with the free traders of that most complacent and naïve period in history, the Victorian era, that even skilled workers could immediately establish an industry and have it succeed from the start without aid; he realized that there were difficulties to overcome; and so he again prohibited the importation of cloth. Note that there were no weak measures such as high taxes to help these *skilled* artisans. *It was against the law to import any cloth.* Later the *export* of cloth was encouraged by a special arrangement in export duties.

By the end of the fourteenth century, England was making a good deal of cloth, though not even yet of the very finest quality; she was still behind Flanders, though she was fast overtaking that country, and she was also behind the Rhenish district and other Continental centres of cloth manufacture. Immigration of artisans continued, but English cloth was still, in the middle of the fifteenth century, undyed and unfinished. Dyeing and finishing are the two most difficult steps in the manufacture of woolen cloth, and are always the last to be mastered.[1] The English did not excel or even equal their competitors in these processes until the seventeenth century. As it had been political troubles on the Continent that had aided England in the fourteenth century, so now in the sixteenth it was religious troubles that caused a great immigration

IV in 1203, during the Crusades, brought the Flemings in contact with the textile art of the East. As has already been pointed out, the Flemings probably learned much from the Florentines, for whom they did at one time a considerable amount of weaving. *See* John Yeats, "Growth and Vicissitudes of Commerce," London, 1887, pp. 144, 147; *also* Yeats, "Technical History of Commerce," London, 1887, p. 144.

[1] Dyeing and finishing were the processes in which the United States was conspicuously behind until the present century.

of skilled workers into England.[1] The amount of technical knowledge that these Continental artisans brought to England can never be estimated. It was certainly very great; and by the middle of the seventeenth century England had so well learned the lessons which these numerous immigrants had brought that she excelled in most lines of woolens and worsteds. The woolen manufacture was at the end of the seventeenth century the great industry of the country, but we must remember that it had become so only as a result of various restrictive laws, governmental help, and above all the extraordinary and unexpected aid furnished by the technical skill brought to England by the refugees fleeing from the disturbed state of the Continent. With all this governmental assistance and adventitious aid, it had taken England four hundred years to catch up and get ahead; and yet American free trade writers of the nineteenth century were impatient because the American woolen manufacturers, aided by no fortuitous circumstances as the English of earlier time had been, but on the contrary handicapped by many extraordinary events and conditions, had already at that time been operating nearly seventy-five years without obtaining leadership in the industry. The truth is that the mastery of an industrial art may require more than a century; for truly "art is long." The sixteenth century immigrants also helped England to acquire the silk,[2] lace, and other

[1] It is true that many Catholics had to leave England on account of their religious belief, and that many English Puritans because of their belief did leave their country. It might therefore be supposed that there was give and take, and that England gained no more than she lost by the religious troubles of the sixteenth and seventeenth centuries; but the point is that England was so far behind the other nations that her emigrants had very few, if any, secrets to impart.

[2] The Italians were an important element in the introduction of the silk industry into England. First came the Italian traders; later they introduced their own weavers and dyers, and manufactured in England.

important industries; but these manufactures owe their establishment in England equally to legislation. It was not until 1688 when the importation of silk goods from France was prohibited that the silk industry flourished.[1]

The lesson to be derived from this account of the acquisition by England of the woolen manufacture, and from the digression on the importance for industrial development of the intangible equipment requisite for success in the industrial arts, is fairly obvious. This equipment is necessary for the successful introduction and conduct of industry; but it is not an asset which can be acquired overnight; and a country may possess an adequate supply of labor, capital, land, and business ability, it may possess all the natural advantages for the efficient operation of a given industry, and yet that industry may not flourish because of the lack of certain advantages—advantages which are obtainable, but which, largely because of the secrecy with which they have always been guarded, are difficult to acquire, and which, when mastered, require time to develop and to perfect.

[1] Before that date England imported from France about £500,000 worth of silk goods per annum, but in 1763 50,000 were employed in the English silk industry. *See* Gustav Schmoller, "Economic Classics," "The Mercantile System," New York and London, 1914, edited by W. J. Ashley, p. 84. This is the English manufacture that was most adversely affected by the establishment of free trade in the nineteenth century. Since that time England has not been a great producer of silk goods. Had this industry been protected for about fifty years longer, England might now possibly have a large silk manufacture. England, however, in recent years has built up a great rayon or artificial silk industry.

CHAPTER XIII

THE TRIUMPH OF PROTECTION

We have seen that it took hundreds of years for England to acquire the woolen industry, and that then she succeeded in doing so only because she was remarkably fortunate in many ways, and had been aided by numerous accidental events. England took many years to acquire the other industrial arts also. These she learned in a similar manner, namely by restriction of importation and through the settling of foreign artisans in England. The late Professor Thorold Rogers, than whom there never was a more typically complacent Englishman or Victorian free trader, said in a lecture at the University of Oxford, published with other lectures under the title of "The Economic Interpretation of History," "I know nothing which has pained me more, who have an honest pride of race, than to feel how great a debt in every department of art, science, philosophy, invention, we owe to foreign immigrants and foreign teachers." [1] He also said, "I do not know whence these arts [paper and glass-making] were derived, and how they were improved. But I am sure that they were both of foreign origin, and their development in England was not due to native ability or native enterprise." [2] And he further states, "Abundantly as iron ore is diffused in England, so abundantly

[1] J. E. T. Rogers, "Economic Interpretation of History," New York, 1889, p. 275.
[2] *Ibid.*, p. 274.

that, till recently, we almost supplied the world, the art of working it was almost unknown, and the English farmer, to a great extent, depended for this necessary material of husbandry on Biscay and Sweden." [1] He goes so far as to say that the English lost the art of making bricks, with which they were acquainted in the time of the Romans. "Not a single brick, I believe, was made in England between the fifth and fifteenth centuries." [2] In regard to the United States and modern Germany the same thing is true: the industrial arts had to be acquired in a manner similar to that in which England acquired them, though perhaps not quite so long a time is necessary now as formerly. But it is certain that in most cases a longer period is required than Mill suggested, a longer period than a generation, or even two. "The length of time to be allowed for the experiment should not be too brief. Ten years are not enough; twenty years may be reasonably extended; thirty years are not necessarily unreasonable. When writing of the earlier stages of the United States tariff history, I intimated that the first sharp break, in 1810-20, from the established

[1] *Ibid.*, p. 276.

[2] *Ibid.*, p. 279. All these statements are probably correct, though Rogers was not one on whose authority, despite his learning, too much reliance should be placed. He frequently made rather peculiar and even absurd statements; for instance, he said that no great invention had come from America, and also that the English were not an inventive race; but despite this the quotations given are probably substantially true, for there is no doubt that England learned all its industrial arts from other nations, and that they did not spring up spontaneously. Nevertheless Rogers did his countrymen an injustice. What he apparently did not realize is that the industrial arts *never* spring up spontaneously; that they are always the result of slow development, nearly always of transplanting, generally by artificial means. He certainly was mistaken in stating that the English and Americans were not inventive. Most of the great inventions of modern times have been made by Englishmen or Americans.

ways of industry, and the very first ventures in new paths, were sufficient to give the needed impetus, and that thereafter protection might have been withdrawn. An opinion of this sort I should not now support. What has already been said of the tenacity of old habits and the difficulties of new enterprises justifies the contention that a generation, more or less, may elapse before it is clear whether success has been really attained." [1]

Thus does Professor Taussig very frankly confess his change in opinion. Has he gone far enough? In many places in his valuable books Professor Taussig has intimated that it is now easier to acquire an industry than formerly. He states that in some cases at least the artificial obstacles to the rise of an industry in a new country no longer exist,[2] that industry is less rooted in custom, that both capital and labor are more fluid, and that the increase in the means of communication have all tended to make it easier than formerly for a new community to acquire an industrial art.[3] That there is some truth in all these statements there can be no question. Many industrial arts are now less a matter of skill than formerly —that is, less a matter of skill on the part of the operatives. The methods of industry, as the result of the industrial revolution, have, of course, changed greatly; less skill is required, but the industries themselves have become much more complicated, and are dependent on experts who understand machinery—on those who know how to make and improve machines, and on those who

[1] F. W. Taussig, "Some Aspects of the Tariff Question," Cambridge, Harvard University Press, pp. 22-23.

[2] F. W. Taussig, "Tariff History of the United States," 6th edition, New York, 1914, p. 4.

[3] *Ibid.*, p. 6.

know how to keep them in perfect running order.[1] The industrial arts were being improved at such an astonishingly rapid rate during the nineteenth century that those in the lead at that time, generally English concerns, were often able by virtue of some new process or by a slight improvement in a great number of processes—many of which were for a number of years afterward kept quite secret—to produce a better article, or a cheaper article, or both a better and a cheaper article, than their competitors. Thus, while the actual skill of the operatives, the so-called "inherited" skill, became less and less important, the technical knowledge of certain men, generally those in charge, such as superintendents, chemists, draftsmen, and foremen, became greater day by day. Moreover as has been said,[2] each industry became dependent more than ever before upon other industries. Each one, also, has a way of creating certain others; for instance, a large group of manufactures has sprung up in recent years as a result of the development of the automobile.

As has been repeatedly stated, there are still some secret processes, but there are far more processes that, though not exactly secret, are known to very few. They can in most cases be discovered; but it takes time and money to discover them, and while they are being worked out in one country, the *industrially advanced country has made another step forward.*[3] This is what was happening during the entire nineteenth century; this is why it took so long for the United States to acquire the iron and steel industry; but the iron and steel industry *was*

[1] *See* pp. 153, 154, 187.
[2] *See* pp. 146, 155.
[3] *See* pp. 127-128, 204-205.

acquired. Professor Taussig, after pointing out some of the great natural advantages for this industry in the United States, says, "It might be alleged that the iron industry would have advanced during the forty years in much the same way, protection or no protection. And yet the unbiased inquirer must hesitate before committing himself to such an unqualified statement of what would have been. Rich natural resources, business skill, improvements in transportation, widespread training in applied science, abundant and manageable labor supply,—these perhaps suffice to account for the phenomena. But would these forces have turned *in this direction* so strongly and unerringly but for the shelter from foreign competition? Beyond question the protective system caused high profits to be reaped in the iron and steel establishments of the central district; and the stimulus from great gains promoted the unhesitating investment of capital on a large scale. . . . The mounting output was the unmistakable evidence of profitable investment. Thereafter the community began to get its dividend. Prices fell in the manner already described, and the iron industry entered on its new stage. The same sort of growth would doubtless have taken place eventually, tariff or no tariff; but not so soon or on so great a scale. . . . The firm protectionist will find in the history of the iron trade conclusive proof of brilliant success. And very possibly those economists who, being in principle neither protectionists nor free traders, seek to be guided only by the outcome in the ascertained facts of concrete industry, would render a verdict here not unfavorable to the policy of fostering 'national industry.' " [1]

[1] F. W. Taussig, "Some Aspects of the Tariff Question," Cambridge, Harvard University Press, pp. 150-151.

There are some comments to be made on the passage above quoted. If it had not been for protection it is not likely that advantage could have been taken of all the rich natural resources, for it required a large investment of capital to get at the best ores. "Business skill, improvements in transportation, widespread training in applied science"—these were in large measure the result of protection; they had developed in this country because industry had developed in this country;[1] and industry had developed in this country because of protection. And one further point: Professor Taussig says that the industry would not have arrived at the same degree of development so soon or on so great a scale had it not been for the protective tariff. Time is an important factor in matters of this kind. Suppose that because of lack of protection the development had been delayed fifty years—what then? One thing is probable: the Allies might not have won the Great War; for, had it not been for American industry, England, France, and Russia might have been obliged to yield to Germany.[2]

For a long time the position in regard to iron and steel has been reversed. At the beginning of the century Europeans began to speak of the "American invasion," meaning the invasion of their markets by American manufac-

[1] One cannot expect business skill and training in applied sciences to spring up suddenly in an agricultural community.

[2] Not only is this true, but American protection did more than this. It prevented the over-industrialization of England and the earlier exhaustion of her resources. Had there been, as a result of free trade, slower development of industrial life in the United States, English industry would have been more feverish in its development, and exhaustion would have been reached sooner. The coal mines, for instance, would have been lower, and England would not have been so well able to provide for herself in the Great War. The recent strike—perhaps the greatest in history—has revealed how exhausted many of the English coal mines have already become.

tures, including steel and iron. And yet this is the industry that Walker urged his countrymen to abandon! He admitted that we could produce iron and steel as well as any other country, but we were to abandon it because we could, as he explained, do "better"; and Walker was upheld by many in this view. Of course he meant that though we had an absolute advantage in iron and steel we did not have a comparative one. How surprised he would have been could he have been told that within forty or fifty years the United States would produce nearly six times as much iron and steel as England! What a disaster it would have been for this country—what a disaster it would have been for the world—if this industry had been abandoned at that time!

The silk industry is another that has clearly been established in the United States by protection. "It had grown with extraordinary rapidity to very great dimensions. Its character had been entirely changed. The development was not only quantitative but qualitative. It may present a case—I am not convinced that it does, but at least the possibility is present—of successful protection to young industries." [1] "The growth of the silk industry under this long-maintained régime of high protection was not less extraordinary than that of the iron industry. It doubled in volume almost every decade. . . . The gross value of the domestic silk manufactures increased from an insignificant amount (and almost all of that attributable to a single specialty) in 1860, to nearly 200 millions of dollars worth in 1910.[2] . . . In striking contrast with the rapid and unceasing increase of the domestic product is the vir-

[1] F. W. Taussig, "Tariff History of the United States," 6th edition, New York, G. P. Putnam's Sons, 1914, pp. 438-439.

[2] This figure had increased to 761 millions in 1923.

tually stationary volume of the imports. The figure of imports for 1910 is precisely the same (33 millions) as that in 1860, half a century before." [1] "Summarizing the results, . . . we may say that an industry quite new has been brought into being by protection. Imports of great classes of articles have been supplanted almost wholly by domestic products. Not only this; the domestic industry has progressed in technical effectiveness as well. Great advances have been made in its appliances and organization." [2] "But in the particular case we are here considering,—the American silk manufacture,—a dominant influence from the protective system is not to be gainsaid; nor can it be denied that this influence has shown more potentiality of eventual benefit than the free traders are disposed to admit. . . . It appears that protection has caused a great industry to spring up; and there are tenable grounds for maintaining that the growth has been qualitative as well as quantitative, and may illustrate the validity of the argument for protection to young industries." [3]

Another industry definitely established by the tariff in this country is the tin plate industry. The first protection it received was in the McKinley tariff act of 1890, but in the Wilson act of 1894 there was a reduction. Again in 1897 it was slightly advanced, and in 1909 it was reduced to the rate of 1894. "On the whole, the verdict is not unfavorable to the protectionist. It is so, that is, on the question of real success in bringing the new industry to the stage of complete independence; from which follows the further conclusion, not at all welcome to the

[1] F. W. Taussg, "Some Aspects of the Tariff Question," Cambridge, Harvard University Press, pp. 219-220.

[2] *Ibid.*, Cambridge, Harvard University Press, p. 249.

[3] *Ibid.*, Cambridge, Harvard University Press, p. 259.

protectionists, that the occasion for retaining the duty quite ceased. Ultimate independence was achieved, and achieved through domestic improvements." [1] "The development of the industry under this short-lived application of high protection was extraordinary; so extraordinary as to surprise friends no less than foes." [2] That this industry was acquired in such an extremely short time must be due to the fact that everything was favorable to its development. It is a part of the steel industry, tin plate being thin sheets of iron or steel coated with tin.

The iron and steel industry, the silk industry, and the tin plate industry are not the only triumphs of protection in the United States; they are simply cited as conspicuous examples, their progress being perhaps more easily traceable than that of certain other industries. To-day a very large proportion of American industries lead the world: a good idea of their extent can be obtained by noting that in 1913 *all* agricultural machinery, cotton gins, wagons, carts, and machinery for use in the manufacture of sugar, were on the free list. They were made duty-free because they were constantly being exported to all parts of the world. Shoes, typewriters, automobiles, watches, sewing machines, shoe machinery, and innumerable other articles are made more cheaply and in greater quantity in this country than anywhere else; and they are produced here cheaply because the United States has for a century been an industrial country. Most of the raw material for these industries is found in this country. Despite high wages (in fact, the high wages are the result of the extreme productiveness of these industries) these industries are prosecuted here with success, and their products are sold in all parts of the world: American

[1] *Ibid.*, Cambridge, Harvard University Press, p. 188.
[2] *Ibid.*, Cambridge, Harvard University Press, p. 176.

superiority in these goods is recognized everywhere, and the products copied everywhere. This country leads in the production of typewriters, probably because it was in this country that they were first produced in any quantity; and we lead in the production of shoes because it was here that machinery for making shoes was first developed. We lead in automobiles because they can be run more cheaply in the United States than anywhere else, as this is the chief petroleum-producing country of the world, seventy per cent of the total supply being produced here, and gasoline being therefore much cheaper in the United States than in any other country except Mexico; because the American market is not only much larger, but much richer than any other; and finally because the Great War retarded the development of the motor car in Europe. In the early days of the automobile, twenty-five years ago, all the best cars were imported; and had there been no protection one may doubt whether there could have been a motor industry in this country. At present the United States makes annually five times as many automobiles as all other countries combined.

One peculiar triumph of protectionism in the United States, a result of the McKinley act, was the establishment in this country of a large number of branches of European industries, such as German worsted mills, Swiss and French silk mills, and British linen thread factories. These branches in some cases have become entirely independent, and this country has acquired the knowledge and skill that the managers of these plants brought with them, just as centuries before England acquired the knowledge and skill of the Flemings. Their successful establishment proves that these concerns were possessed of special secrets, special ability, and special knowledge of the organization of their respective industries; other-

wise they would not have dared to compete with American industries on their own soil.

There is no need of citing further instances of the success of protection in this country, nor to enlarge upon the industrial importance of the United States. The important inquiry concerns itself with the seemingly halting development during the nineteenth century. Evidence has been adduced to show that this development was not so slow as was formerly imagined, but in reality quite the opposite, because it was unusually difficult to acquire the new mechanical technique that sprang up as a result of the industrial revolution, and because despite statements to the contrary there were many secret or little known processes. These secrets, to be sure, nearly always concerned themselves with the finer parts of manufacturing, but they were just enough to make American industry as a whole appear crude throughout the first three-quarters of the nineteenth century. American industry was catching up; but as explained, the catching-up process is a difficult one.[1] By the time American industry acquired the

[1] In speaking of American superiority in shoe manufacture, Dr. Taussig says, "Of course it is true that, for any American manufacturing industry subject to possible foreign competition, the price of independence is unceasing progress. To hold its own, and to pay current high wages, it must not only have the lead, but keep the lead. It must continue to advance steadily, with new ways and better processes, as fast as competitors adopt its established improvements. The history of industry, and especially that of English industry in its long contest with foreign rivals, indicates that probably it can keep the lead. Imitative competitors usually remain in the rear. They are constantly left behind by those whose ways they copy. Certainly there is nothing to indicate that a different result has appeared or is impending as to those American manufactures which had long reached the stage of independence and of export, such as sewing-machines, tools and hardware, agricultural implements, electrical apparatus, and these very boots and shoes." "Tariff History of the United States," 6th edition, New York, G. P. Putnam's Sons, pp. 386-387. *See also* "Some Aspects of the Tariff Question," pp. 251-252. Here again Professor Taussig is speaking of other countries' catching up with the United States. All these arguments apply with equal force to the United States' catching up with England.

rudiments of the new arts, England had progressed to the more refined stage of the industrial revolution. Furthermore—and this is most important—America suffered from a lack of capital and a lack of skilled labor, or any labor, until the large foreign immigration in the decades after the Civil War. American manufacturing industry also suffered from the constant threat of lower duties. The fear that protection might, as a result of the next political change, be withdrawn, caused a hesitancy in the development of many enterprises. But perhaps the most outstanding fact, and one that is not sufficiently understood, is that many of these industries, while they enjoyed an absolute advantage as a result of the great natural resources and the genius of the people, did not enjoy a comparative advantage. They would have been able to compete with foreign industries had it not been that they were unable to compete with other pursuits in this country, chiefly the extremely profitable agriculture of the West, cotton growing in the South, and certain extraordinarily profitable extractive industries, such as mining, and petroleum. The important point that the nineteenth century free trader (and, as a matter of fact, the nineteenth century protectionist) did not clearly understand, was that time would change all this; that in time these industries would have not only an absolute advantage, but also a comparative advantage. "The nature and the cause of an advantage become material only when we begin to inquire whether it is likely to persist indefinitely, and whether it can be affected by legislation. Obviously, a comparative advantage, which rests not only on physical causes, but on differences in skill, knowledge of the arts, mechanical training, qualities of character and intelligence, may be influenced, within limits, by a stimulus in the way of premium or protection. The argument for protection to young

industries applies only under conditions of this latter sort. Given those conditions, it may apply more widely than English economists have been disposed to grant. Protection to young industries, which Mill believed to be of positive advantage only in a young country in the earlier stages of growth, may have had occasional and unexpected successes even within the last thirty years. The history of the silk manufacture illustrates the possible turn of events; and the application of protection in the United States has been so sweeping since the Civil War that this case, while by no means typical of the usual effects, probably does not stand alone." [1]

Protectionism has triumphed in Germany just as decidedly as in the United States. "It is certain that since the adoption of the protective system by the German Empire in 1879 there has been an extraordinary advance in all the technique and organization of manufacturing industry. In the United States it has been declared that protection of the woolen manufacture after the civil war caused old plants and antiquated machinery to be retained.[2] Yet in general it is as certain in the case of the United States as in that of Germany that the march of technical improvement has been extraordinarily rapid during the period of the maintenance of a high protective system.[3]

Protectionism undoubtedly had some triumphs in other countries besides Germany and the United States. It unquestionably assisted both France and Belgium in acquiring the new technique of industry created by the industrial revolution, and the same is to a limited extent

[1] F. W. Taussig, "Tariff History of the United States," 2nd edition, New York, G. P. Putnam's Sons, p. 331.

[2] *See* pp. 61-62.

[3] F. W. Taussig, "Some Aspects of the Tariff Question," Cambridge, Harvard University Press, p. 29.

true in regard to Austria, Italy, and some other countries. Extreme protectionism before the war shielded a fair-sized manufacturing interest in Russia, but it is doubtful if any of the industries ever became independent, and there is probably no triumph here for the principle of protection to young industries. The rest of the countries of Europe have made no decided progress in the industrial arts as a result of recent protection;[1] they are not adapted in some ways to become manufacturing countries, being small in size and limited in resources. Jevons has pointed out in "The Coal Question," [2] how dependent England is upon her coal. There is practically no coal in such countries as Italy, Sweden, Norway, Denmark and Spain. Hydro-electrical development is a purely twentieth century matter, and moreover has made no marked progress in Europe; and consequently these countries are without great power resources. Furthermore, it seems as if the national genius of the people is not of a kind to develop modern industrial success. Sweden is somewhat an exception to the above statements. Certain kinds of steel are produced in Sweden better than anywhere else. This success is due to special iron ores, and possibly to some special skill which has not been completely mastered by others. Excepting the United States, Japan and Canada are the only countries outside of Europe that have made any notable success in industry. Both have adopted protection, and some development has taken place, but as neither of them apparently possesses rich natural resources,[3] extraordinary industrial development seems unlikely.

[1] Italy is perhaps an exception.

[2] W. Stanley Jevons, "The Coal Question," London, 1865.

[3] It is possible, and even probable, that the natural resources of Canada are greater than they are now supposed to be.

Thus we see that protection did triumphantly succeed in establishing industries in the United States, Germany, and possibly some other countries during the nineteenth century, and has had a partial success elsewhere.

CHAPTER XIV

THE FUTURE

What about the future? Are tariffs to remain indefinitely? According to the infant industries argument, certainly not. The infant industries argument assumes that after a certain indefinite time—as has been explained, a much longer time than was formerly believed necessary—an industry becomes established and independent, requiring no further protection. Many industries in Germany and the United States have reached this point, and some of them, especially some of the later ones which sprang into existence long after Germany and the United States had attained a developed and successful industrial life, have been independent of protection from nearly if not quite the beginning. There are others that are still dependent for their existence on protection; for instance, that part of the woolen and worsted industry which concerns itself with the finer grades still apparently needs protection in the United States. How much longer it will take for this and other similarly situated industries to become independent is hard to say, but unquestionably great progress has been made and is being made, even though at present apparently nearly all the textile industries are in a somewhat depressed condition. There are probably some things in which we shall never possess both an absolute and a comparative advantage in this country. It is not necessary that we should make everything.

There may well be some things that it will be better for us to import.

So far as defence is concerned, protection is in some ways a permanent policy, though of course only for those industries which are essential in time of war, and which cannot be carried on without some help. In the United States there are some such industries, but it is probable that in the near future very few will be dependent on protection. Protective tariffs, however, will probably be maintained for many years as a defence against dumping, and as a means of getting favored treatment from other nations.[1] Free trade is certainly not at the present moment making any progress; and it will probably not

[1] It has not seemed advisable to go into the technique of tariff legislation and to describe the different kinds of tariffs, but perhaps it should be stated here that, generally speaking, there are three kinds of tariff systems: the general or autonomous tariff system, which in the United States prevailed up to the close of the nineteenth century; the general and conventional tariff system, by which there is a general tariff similar to that in the general or autonomous tariff system, but which provides that conventions may be made with other countries, according them lower rates in return for equivalent concessions; and the third, the maximum and minimum tariff system, which gives two rates on all articles, the lower rate to be the prevailing one against countries making agreements with the country enacting the tariff. It is customary in conventions or agreements between nations in regard to tariff duties to have what is known as the "most favored nation" clause, by which it is agreed that the nation establishing the tariff shall guarantee the other nation which is a party to the agreement that it shall always have as low duties as the *most favored nation,* so that if, at a later period, a lower rate is given to a third nation, automatically the nation making the original agreement also obtains the benefit of this rate.

Another matter concerning the administrative features of the tariff that has not been discussed is the provision for flexible rates in the last tariff act. According to this, the President of the United States may raise or lower tariff rates fifty per cent, or change any *ad valorem* to the value of a competing American article. The President may raise or lower the duties only after a recommendation for such action has been made by the Tariff Commission. This so-called "flexible tariff" has been operative for such a short time that it is probably wise not to pass judgment upon it at this time.

do so until there is a settled condition of affairs in Europe.

England, the great free trade country of the world, adopted protection for a number of industries during the War, has since, with some changes, continued it, and is now no longer a free trade country. Whether this is a wise policy or not is difficult to say. In certain industries England is definitely behind the United States and Germany. Can the teacher learn from the pupil? Perhaps in some cases. Protective tariffs may help to restore some of Great Britain's former prestige in manufacturing, but it seems unlikely. The case is in no way the same as that of the United States in the nineteenth century. England has no great agricultural and mining wealth (except coal and iron ore) to support her manufactures; and we must remember that in the nineteenth century the United States frequently possessed an absolute advantage and lacked merely a comparative one. In Europe to-day it is too often the other way: certain nations have a comparative advantage in some things, and only infrequently an absolute advantage in anything.

Most of the European tariffs probably defeat their own ends. An area approximately as great as that of Europe —the southern half of North America—has free trade. It has, to be sure, protective tariffs against the rest of the world; but within this area of three million square miles, trade is free. Europe, on the other hand, has many tariff walls, and it is hard to see how they are of much advantage to the countries which have erected them. European countries have little to learn from each other, since most processes and machines are now well known. They are inferior to the United States in methods, and these they will have to learn chiefly from this country.

This inferiority is most marked in mass production and large business organization.[1] They have not carried out other American ideas, such as the changeability of parts, to the extent that these are practiced in this country; and present tariffs are more a hindrance than a help in such matters. Mass production can be effective only where there is a large market; but if tariff walls interfere every few miles with the freedom of exchange of products, then there cannot be a large market.[2] It seems, moreover, as if the attempt of some of the European nations to become leaders in industry may be ill advised, as they are not rich in natural resources.[3] The nations of southern Europe, having little coal, should, if they are to achieve anything in industry, make definite attempts to develop hydroelectric power.[4] Here is another instance where American methods might with profit be copied. Switzerland may possibly have a great future in providing electric power for industrial purposes. There should of course be no hasty action in lowering European tariffs; it should be done only after study and deliberation; and all these countries would do well to protect themselves against dumping, and have a few schedules for encouraging certain industries very necessary for defence purposes. Some countries, too, like Germany,

[1] Since the above was written an international steel combination, involving France, Germany, Luxembourg, and Belgium, has been effected.

[2] This was written several months before the economic manifesto signed by the leading financiers of Europe and the United States was given to the press on October 19, 1926.

[3] But perhaps in some future synthetic age natural resources may not be so important as now.

[4] It is maintained by many that the great secret of American prosperity is the utilization of power on a far greater scale than in any other nation. It is said that the American workman has behind him, as it were, thirty slaves. *See* "The American Secret," by Thomas T. Read, in Atlantic Monthly for March, 1927.

may need protection for agriculture in order to keep a large portion of the land under tillage, so that in case of war or inability to secure the usual amount from other countries they will not be in danger of famine. Apparently in the near future there is to be no distinct development industrially in South America, Africa, Australia, or New Zealand. In Asia, Japan, and perhaps in the distant future China, may develop industrially. The Japanese are very clever, but Japan lacks much that is needed to make a great industrial nation. As with few exceptions the great natural resources of the United States apparently do not cross the line into Canada, one cannot look forward to any unusual growth of industry in our northern neighbor.

As to the United States, it probably will be the part of wisdom to make no substantial change in the tariff until there is a more settled condition in Europe; and here again, haste is inadvisable. When Europe has completely recovered and the normal prewar conditions are restored, there should perhaps be a revision. Some schedules—there should not be many—should be retained for defence purposes, and a few educational schedules may be needed for some time. There are still some industries which, though they have been protected for a number of years, are not yet able to exist without protection; or perhaps it would be more accurate to say, some branches of manufacturing, for in nearly every case it will be found that some parts of the industry will survive, protection or no protection. A number of schedules could possibly be dispensed with: they are mere anachronisms, except as a protection against dumping, and it might be better to drop these schedules and have satisfactory anti-dumping measures enacted in their stead. The agricul-

tural schedules in some cases should be abolished. They have never been of much practical importance; they are chiefly the result of political expediency and misunderstanding as to the real workings of protective tariffs; though here again, there should be protection against dumping. There are doubtless schedules that should be immediately abandoned; there never should be a protective tariff on anything of which there is only a limited supply within the country, for by it, instead of conserving our resources, we hasten their depletion. This is a case where all arguments for defence lead to free trade and not to protection. A protective tariff on such things as manganese is absurd; we have very little manganese in this country, and what little we have should be kept for emergency, for a time when it might be impossible to get it from other parts of the world. The same statement may be made in regard to the other steel-making materials such as chrome, nickel, tungsten, and vanadium. Perhaps chrome presents the most interesting case. We have only a twelve years' supply, and yet we hasten the exhaustion of this supply by a protective tariff.[1] In this particular case it would seem as though the government should acquire the mines. It may be said that with some possible exceptions all raw materials should be free from import duties in all countries.

Though relying in the past on unsound premises and often supported by false arguments and applied with unwarrantable recklessness to nations of every possible cultural stage, and though sometimes stated in such a simplified form as to be absurd, the doctrine of free trade is fundamentally sound. This does not mean that pro-

[1] *See* Josiah E. Spurr, "Steel-Making Minerals," in Foreign Affairs, Vol. IV, No. 4, July, 1926.

tection under certain circumstances is not desirable. List was right in stating that free trade is advisable in the early stages of a nation's civilization, but he should have added that it is the correct policy at all stages of development for those nations which through lack of natural resources can never become industrially important. Further he was right in his contention that, having reached a certain cultural development, a country should adopt protection to foster the industrial arts and reach a still higher stage, abandoning it later in whole or in part when no longer needed.

We must recognize the fact that universal free trade is the ultimate goal toward which the nations of the world should tend, even though they may have to wait for "the Parliament of man, the Federation of the world." In the fifteenth, sixteenth, seventeenth, and eighteenth centuries, restrictive measures were wise for England, and during the nineteenth century and the first part of the twentieth protectionism was (and in many cases still is) a wise policy for the United States and some of the Continental European countries. Hamilton, List, and Mill were right in their infant industries arguments; but they were wrong in assuming that a few years, at most a generation, were long enough for an industry to develop. As we have seen, the English woolen industry was not able to compete on even terms with the woolen industries of certain districts of Continental Europe until after a lapse of hundreds of years, and this despite the fact that this industry, aided by an extraordinary series of events, was also fostered and protected by drastic laws, laws that probably could not be enacted in any modern democratic country. It is true that conditions in industry then were different from now, that at that time there was perhaps

more manual skill;[1] but we should not conclude from this that industries[2] of the past and present have nothing in common. Secrecy pervades and always has pervaded industry: this is what distinguishes it from the agricultural, mining, and similar pursuits; this is what makes it difficult for one country to acquire the industrial arts of another; this, together with the industrial revolution which continued throughout the whole nineteenth century, was what retarded American manufactures. Had it not been for the improved methods of communication and the immigration after the Civil War, it might have taken centuries for this country to acquire the new industrial arts, especially since these were further hindered in their development by the remarkable profitableness of agriculture and mining, which, as has been pointed out, attracted a large part of both capital and labor. The industries in this country were competing far more with its exceptionally profitable pursuits than they were with their competitors in the same business in other countries. But the conclusion to be drawn in such cases is not as Walker draws it, that we should abandon them, but that we should protect them until conditions change, or until they improve in methods; for it must not be overlooked that part of their inability to compete was due to lack of skill and knowledge of the finer phases of their crafts. It would have been as stupid to await the day when these industries could have been carried on successfully without help as it would be for a mariner to await a favoring breeze before loading his ship.

Moreover, as Professor Graham has pointed out,[3] the

[1] *But see* p. 154.

[2] Again we must remember that by industries is meant manufacturing carried on for a market.

[3] *See* F. D. Graham, "Some Aspects of Protection Further Considered," Quarterly Journal of Economics, Vol. 37, February, 1923, pp. 213-214.

pursuits in which a country possesses a comparative advantage may be those to which the law of decreasing returns applies. A correct protectionist policy might enable such a country finally to adopt pursuits in which the law of increasing returns operates. This was the case in the United States during the nineteenth century; protectionism in America had the effect of turning capital and labor toward those pursuits in which the law of increasing returns applies.

During a business depression in the United States in the early nineties of the last century, some American firms sold or "dumped" large quantities of goods abroad. Thus commenced the so-called "American invasion." The Columbian Exposition at this time revealed how far advanced the United States was in many lines of manufacture; and a few years later, the closing years of the nineteenth century and the opening of this present century, after the great consolidations called "trusts" had been formed, many of these manufacturing concerns organized foreign sales offices. It was, however, during the Great War that a full realization of the gigantic proportions and the great diversity of American industries was grasped both at home and abroad. The past few years have seen remarkable strides forward. At no period has greater progress been made in so short a time than in the few years since the War ended.

Had peace and security instead of war and turbulence reigned supreme over the whole world during the past; had civilization, knowledge of the arts of life, and political liberty been equally shared by all nations, then the history of industrial supremacy would read differently, and there would never have been an excuse or a justification for any policy other than that which allowed and protected the freest exchange of commodities. But such has

not been the case. War and fear of war has dictated the policies of nations; and a single nation, by what may be termed a series of fortunate accidents and a number of extraordinary inventions, was placed at the beginning of the last century in a position of industrial and commercial supremacy not warranted even by its splendid, though limited, natural resources. It is this which has been, during the past century, partly the cause of the protective tariffs of Continental Europe, the United States, and other countries. Such economic supremacy as England, long protected by her moat of water, enjoyed during the past century was not and is not natural, but an abnormal condition produced by the almost constant disturbance on one continent and the rudeness of life in the rest of the world. The present century is witnessing an economic national supremacy more nearly complete than that enjoyed by Great Britain during the last. This is so because the United States possesses incomparable natural resources. The industrial and economic supremacy of this country is that of three million square miles, and not of ten or twelve thousand, as in the case of Holland, or fifty thousand, as in the case of England. The industrial supremacy of the United States is a natural condition, warranted by the great natural wealth of this country. Success in industry was attained by the United States in large measure as a result of protectionism. America was destined to be a great industrial nation; but its present commanding position would not have been attained so soon or so decisively had it not been for the adoption of the policy of protection to native industries.

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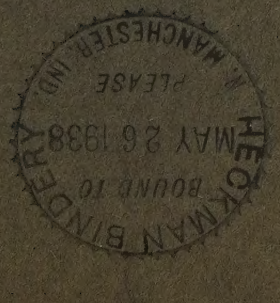
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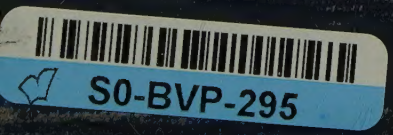
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